

California State Journal of Medicine.

Published Monthly by the
Medical Society of the State of California

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Communications on subjects of interest to the profession are invited. The "Journal" is not responsible for the views advanced by correspondents. Address letters relating to the "Journal" to the publication office, 31 Post Street, San Francisco.

MARCH, 1903.

EDITORIAL NOTES.

The attention of the members of the State Society is directed to the announcements printed elsewhere concerning the annual meeting to be held in

THE MEETING AT SANTA BARBARA. April at Santa Barbara. Arrangements have been made

to meet at the Potter Hotel, the new and commodious hotel recently opened, and while there undoubtedly will be a large attendance at this meeting, the hotel accommodations are ample to meet the requirements. The sessions of the Society will be of unusual interest this year, several very important matters coming before the legislative branch, and the scientific program promising to be more instructive and of greater scope than customarily. The social features of the meeting have not been overlooked by the committee, and side excursions to points of interest in the southern sections of the State have been provided for, making the trip to be undertaken by northern delegates and guests one of pleasure as well as profit. On the evening of the last day's session there is to be a special dinner given at the Potter. As the membership of the State Society now is over 1000, with some County Society additions to be made between this time and the meeting, the thirty-third annual meeting will bring together representatives from every part of the State, and the exchange of fraternal greetings by members of the profession living in this great empire of California can only be productive of good. During the year just closing the achievements in medicine and surgery have been most marked, and the reports of the committees on the various subjects assigned them on the scientific program will furnish a compendium of medical progress of the greatest interest and value to the profession. Prompt response should be made to the circular about to be sent to members, so that provision may be made at Santa Barbara for the entertainment of delegates and others who may attend the meeting.

Elsewhere in this number of the JOURNAL will be found the statement in outline of a proposed

THE PUBLIC TO BE PROTECTED. association of honest men; of honest physicians, pharmacists and manufacturers, intended not alone for mutual protection and benefit, but for the protection as well of the direct charge of the physician—the public. Thieves, scoundrels and patent-medicine fakers have long appreciated the advantage

accruing from the association of common interests; but honest men seem as yet to realize it only to a limited degree and trifling extent. The keynote of the plan of this proposed Bureau is the association of honest men, of those whose primary intent is to be honest in spite of competition, and to brand the product of honest manufacture in such a way that the purchaser may have assurance that he is getting what he pays for and what the label on the package calls for. As conditions are at present, little or no reliance is to be placed upon the legend of the average label, even when it bears the name of a firm believed to be honest and reliable. The extract may or may not be "U. S. P."; if it is, it is probably different in many essentials from the supposedly identical extracts made by other houses; the preparation which the physician is urged to "try on his patients" may or may not contain only the active ingredients mentioned in the statements of the manufacturer, and in the quantity given—no one knows but the manufacturer; the food-stuff recommended may or may not be wholesome, and may or may not correspond with the "analysis" furnished by some unknown chemist. Who is to separate the good from the bad? The manufacturer can not do it himself, nor can any single individual; the government can not undertake the work, and if it did the result, if one may judge from the way government undertakings of the sort generally do result, would be even worse than present conditions. But the great professional interests of the country can erect a scientific machine that without personality or prejudice can stand between the manufacturer on the one hand and the purchaser and consumer on the other, and can say of such articles as it has examined and undertakes to supervise, "This thing is pure, or is good; you may rely upon it."

For many years the Register of Physicians in California, formerly published by the Secretary

THE REGISTER OF PHYSICIANS. of the Board of Examiners, has been a very useful volume. The changes in the State law, together with the retirement of the former Secretary, have resulted in the abandonment of the publication of this volume by the Board of Examiners. It has been

repeatedly urged that the State Society should undertake the publication of the Register, or of a medical directory along similar lines, and the question is one which should be brought up and settled at the next meeting. In considering it certain facts must be borne in mind. There are two general considerations: first, is the work, as heretofore, to be given to every physician in the State? second, if not, is it to be given to the members of this Society only, and sold to others, or is it to be given to the members of the Eclectic and Homeopathic State societies as well, and sold to those who are not members of any one of these three societies? It should be remembered that this class of printing is very expensive, and that the amount received for advertisements was less than \$200 in excess of the actual cost of composition, printing and distribution of the last volume of the Register issued. That is not enough to pay any one for doing the large amount of work required in getting the directory out. And further, if the directory is to be given only to members of the three State societies, and sold to others, the circulation will be less, and the rates for advertising correspondingly less, and probably fewer advertisements will be received. There is every reason to believe that the publication of the directory by this Society would cost a considerable sum, but the directory published by the New York State Association has cost that association several thousand dollars; yet the members are perfectly satisfied. They probably reason that a medical society has but one excuse for existence, and that is to be of use, help and benefit to its members, and that no better way of spending its revenues can be devised than in the publication of its journal and the directory, both of which are considered useful, helpful, and beneficial to the members as individuals and to the association. This matter of publications has been carefully considered, and a full and detailed statement of the whole question will be presented at the meeting in Santa Barbara. It seems to resolve itself into a choice whether it is better to have some money lying idle in the bank or to do something worth the doing, that will be for the benefit of the membership and the profession at large.

The following examples are culled from various published statements of chemists regarding the analyses of chemicals labeled "Chemically Pure,"

**ANALYSES OF
PURE DRUGS.** analyses of chemicals labeled "Chemically Pure," or else sold as medicines, supposedly pure. It is a cheerful list to contemplate! Zinc (contained lead, iron and arsenic), Bismuth (contained arsenic), Arsenious acid (contained 40 per cent insoluble matter), Boric acid (generally contained powdered borax; sometimes as much as three

times its own weight of borax; occasionally as much as 10 per cent calcium borate), Salicylic acid (rarely found C. P.; generally contained quantities of starch and calcium sulphate), Tannic acid (rarely found not adulterated with dextrin, sugar, flour or salt; one sample marked "C. P." "high grade" contained 65 per cent tannin and 20 per cent granulated sugar), Aconitin (strength varied from 1 per cent of alkaloid, to 90 per cent of alkaloid), Ammonium chlorid (generally contained alum and clay), Ammonium bromid (contained ammonium chlorid), Antimony sulphid (almost invariably contained chalk, sand, clay, etc., colored with charcoal), Aristol (some contained as high as 65 per cent free alkali; generally contains excess of alkali and free iodin; commonly adulterated with starch, talc, calcium carbonate, zinc oxid and tripoli; oxid of iron added in some cases to give proper color), Bismuth salts (all contained copper, arsenic and iron), Calcium phosphate (very frequently contains chalk, gypsum or talc), Hyoscin (some samples contained only pure atropin), Potassium acetate (lead and arsenic commonly found), Sulphonal (extensively adulterated with sodium bicarbonate; some samples found to be pure acetanilid). And yet dishonest manufacturers ask us to believe them when, in falsehood, they label adulterated packages "*chemically pure!*" Is it not time that we had some way of telling how nearly the label defines the contents? Eternal guessing is very trying.

In April, 1902, the State Society was reorganized on the plan of county society membership requirement for eligibility to membership in the State Society. Immediately thereafter the Secretary sent

**RECENT HISTORY
AND THE JOURNAL.** notices to the various county and other local societies, urging affiliation, and to many prominent physicians about the State urging the formation of county societies where none existed. In spite of these notifications, and of much similar missionary work by other members of the Society, scarcely any activity along the lines indicated was noticeable before November. At the same meeting the Society recommended the substitution of a journal for the annual Transactions; in October the Board of Trustees authorized the establishment of the JOURNAL and voted funds for sending it to every physician in the State for some months. The first number of the JOURNAL was issued in November. Since November there has been very marked activity among existing local societies and physicians living in parts of the State where no county societies exist. It is noteworthy that most of the larger county societies have complied with the requirements for affiliation, that some others are arranging for affilia-

tion, and that several other county societies are either in process of forming or are in the preparatory stage. Incidentally it may be mentioned that the membership of the Society has trebled. These things are merely referred to in a casual way and there is no intention of continuing the argument with a stick of dynamite. The members of the State Society should certainly take much credit to themselves for their action in recommending that the annual volume of Transactions be abolished and that a journal be substituted. Certainly very few people ever look into an annual volume of transactions, and while some may not study the pages of a journal, or look at it after its volumes are completed, their attention is called to its existence and to the vitality of the Society publishing it, at least twelve times each year.

At the present time, pretty much every manufacturer of pharmaceuticals in the country is

LACK OF STANDARD. turning out products to suit himself—and his assortment of customers. Several

of the largest houses have at least three grades of "U. S. P." products, due to the fact, as alleged by one of them, that they have to make their goods to suit the price demanded by the purchaser, and not, as is the popularly believed fairy story, according to the requirements of that wonderful work on folk lore, the United States Pharmacopeia! A gentleman connected with one of the largest manufacturing houses in the country says: "We receive an order like this: 'If you can furnish the goods ordered at the prices named, please do so, etc.' Now what are we to do? It is impossible to make U. S. P. standard goods at the figure named, yet if we refuse the order some other house will fill it; and we are in business for profit." So the wholesaler gets the third-grade goods, and the pharmacist, taught thrift by the manufacturer's example, buys them, and the physician's prescription is filled with them, and somehow the "personal idiosyncracy of the patient" is such that no result follows their administration. Perhaps the patient dies. We have laws, but who is to enforce them? We have a Pharmacopeia, but—perhaps the less said the better. There are certainly enough decent, self-respecting physicians and pharmacists in the country to see that this thing is changed, if they will, and the way to do it is to get together and demand that a standard be set and then lived up to; that the certificate of the National Bureau be placed upon honest products so that all men may know them and know that they are honest. It can be done, and there are enough reputable concerns ready to support the movement to assure its success.

After the beautiful and forceful illustrative examples furnished gratis (?) by Messrs. Carnegie,

Morgan, Rockefeller, et al., he must indeed be a very blind man who cannot perceive the advantages directly

accruing from perfected organization. The power of unanimity is practically incalculable. It is just this unanimity of action for which the State Society is pleading and, with the American Medical Association, is striving to attain. Granted an organization of a great majority of the physicians of the whole country, or any given section of it, and immediate results will appear. If, say, seventy-five or eighty per cent of the physicians of California were united in one society, what legislation could be passed in opposition to its dictum? With such an organization, acclaiming, as one of its first duties and privileges, the protection of its members against, for instance, attempted blackmail in the guise of "malpractice" suits, how many suits would be filed in a decade? The opinion is ventured that there would be fewer such attempts in a decade than there are now in a twelve-month. And the cost? The opinion is also ventured that the cost would be less than the total amount now paid by various members of the State Society for insurance policies covering malpractice suits; yes, a good deal less. True life is to do something worth the doing; health is given in order to do it; happiness comes from doing or helping in the doing. To plod along, not seeing, not advancing, not caring to know what others are about nor how the world is going ahead and in what lines: that is what some people seem to call "living." Why, the littlest tree toad in the land does more than that, for he makes as much noise in the world as he can. Some physicians ask themselves, or any one else they can manage to bore, "What use would it be to join a medical society?" If they would transpose these words and say, "What use would it be to the medical society for me to join it; how could I help?" they would indicate a more hopeful possibility of enlightenment. And they would help in just this way: They would each one add his decimal toward forming the unit. In decimals there is much weakness, but in the unit there is unlimited strength. Therefore, every physician in the State is urged to join his county society at once. If you have no county society, it is as much your fault as any one's, and the sooner you get busy and start a county society the sooner you will know you are alive. The State Society has trebled its membership since last November; we want to at least double the present membership before next November, and it can be done if the sleepers will but wake up.

The editor of the JOURNAL, together with the other members of the Publication Committee, is desirous of enlisting the co-operation of the various county societies, through their officers, in making the

REPORTS FROM THE COUNTIES.

JOURNAL much more of a State institution than it has been possible to make it heretofore. The JOURNAL will be glad to print the proceedings of the county societies; that is, that part of the proceedings of interest to the profession generally. If abstracts of papers read before the societies are sent in by the 10th of each month, with a synopsis of the discussions, they will be given space in the JOURNAL, and the secretaries are requested to communicate with the publication office, 31 Post street, with reference to this matter. In case the secretary cannot undertake to furnish a report of the proceedings, he may be able to suggest the name of some other member of his society who would be interested in having the reports published. The JOURNAL is published in the interest of the profession in the entire State, and is circulated in forty-four of the counties. It is very desirable, therefore, that all the counties in affiliation with the State Society should know and feel that they have an interest in making the Society's JOURNAL their own as well as the parent body's organ. It is not enough that the papers read before the State Society are by authors from the different parts of the State; there are other papers of equal value and interest read before the county societies, and it is the purpose to give space for them quite as freely as for those whose publication is provided for. In this connection, members of the State Society are reminded that original scientific medical articles, not having been published in other journals, are solicited for this publication, and if found available will be given space. When necessary to explain the text, or to add to its interest, cuts will be furnished free of cost, provided drawings or photographs accompany the MS. While the circulation of the JOURNAL necessarily keeps pace with the growth of the State Society, it is believed the magazine should have a much larger circulation among the professional men who are unaffiliated. This increase in its usefulness may be brought about by personal effort on the part of members. But this is a business proposition as well as missionary, and it is the intention to put canvassers in the various counties. The JOURNAL will pay a liberal commission for securing regular subscribers, and would be pleased to have the address of medical students, or others qualified to do the work, who may desire to add something to their incomes in this way.

Every physician either is or is not honest and honorable and ethical, so far as the practice of his profession is concerned. If he is honest and honorable in his professional work, he should be a member of his local and State Society; if he is not, he should not be permitted to join such societies nor to retain his membership in them if he has already joined. But no question other than professional integrity should be allowed to enter into the matter of medical society membership. Personal differences of opinion, envy, hatred or malice; likes or dislikes; nor race, school nor religion, should so much as be thought of when the one great question of professional organization and of membership in the local and State medical societies is considered. If there must be squabbles, let them be outside; let medical organization be on the broadest possible lines, for professional honor and advancement, and for the benefit and protection of all honest and honorable professional men, no matter what their personal differences may be. Let us have a State Society so big that personalities will be lost in it.

A special committee to investigate thoroughly the proposed plan of the National Bureau of Medicines and Foods (as published elsewhere in this **NATIONAL BUREAU AND THE A. M. A.** issue), and to report to the House of Delegates at the New Orleans meeting of the American Medical Association, has been appointed by the president, Dr. Frank Billings. The chairman of the committee is Dr. E. Eliot Harris, of New York, and the members are Drs. Nathan S. Davis, Jr., Chicago; S. Solis-Cohen, Philadelphia; H. Bert Ellis, Los Angeles, and Philip Mills Jones, San Francisco. There is no doubt, from the personnel of this committee, that the subject will be fully gone into and a full report rendered at the New Orleans meeting. It is certainly to be hoped that the committee will find the details of the proposed Bureau satisfactory, or will be able to construct from the idea a satisfactory plan for undertaking the work outlined. If the busy physician could have reliable information furnished him concerning products and preparations that are constantly forthcoming, not from the persons directly interested financially, but from a dispassionate and disinterested board of scientific gentlemen qualified to gather and issue such information, it would relieve him of a great burden. And this, apparently, is but one of the advantages that will follow the adoption of the "Bureau," or some similar plan for controlling the situation. It is pretty evident that if we do not protect ourselves, no one is going to do it for us.

"IN THE 57TH CONGRESS, 2ND SESSION, H. R. 3109"; (still-born in its fifteenth reincarnation) "AN ACT FOR OBITUARY.

P R E V E N T I N G T H E ADULTERATION, MISBRANDING AND IMITATION OF FOODS, BEVERAGES, CANDIES, DRUGS AND CONDIMENTS, IN THE DISTRICT OF COLUMBIA AND THE TERRITORIES, AND FOR REGULATING INTERSTATE TRAFFIC THEREIN, AND FOR OTHER PURPOSES."

It is with mixed feelings that once more is noted the passage into the great and capacious past of the fifteenth attempted passage of this Act; mixed, because of sorrow in that the law might do much good, and relief in that it could have done much harm, for it carried at least one "joker." Until the joker was discovered there was a loss to understand why certain large manufacturing houses, notorious for their questionable methods, were advocating the passage of the bill. But observe the definition of the term "drug," as given in the proposed act: "Sec. 5. That the term 'drug,' as used in this act, shall include all medicines and preparations recognized in the United States Pharmacopeia for internal or external use." If there is any manufacturing house in the country that is paying dividends on the profits derived from those drugs which it manufactures, and which come within this definition of the term "drug," we should be glad to know of it. And against the bill, in addition to the *advocacy* of certain manufacturers, which in itself had much damning weight, were a goodly number of honest manufacturers who objected to the possibility of a "hold up."

HIC JACET

THE PURE FOOD AND DRUG BILL.
REQUISCAT IN PACE.

To those who are interested in modern therapeutics and *materia medica*, no question is more

PROPRIETARY PREPARATIONS. pressing nor more perplexing than that of a proper method of dealing with the very large and rapidly increasing number of "proprietary" remedies. Many of them are of undoubted value, yet the various manufacturers are so persistently paralleling each other, especially in those preparations that have recognized value, that he who would use them is soon distracted by the number of similar preparations and buried under the mass of one-sided trade literature sent out by the manufacturers. A committee of the section of *Materia Medica and Therapeutics* of the A. M. A. was appointed last year to consider the question; more recently the New York Academy of

Medicine passed a resolution calling for the appointment of a committee for a similar purpose. So far as can be learned, however, the question remains as far from being solved as ever, though it is certainly to be hoped that something will be done before long, and relief, at least partial, secured.

The scientific program for the thirty-third meeting of the State Society promises to eclipse any of the pro-

grams which have ever come before that body. The program, in part, will be found on a preceding page. A number of valuable contributions to the science of medicine and surgery will be read, and it is hoped that the discussions will be of as good quality as the papers. The members are reminded that they will be allowed only twenty minutes in which to read their papers, and are advised to cut out all statistical matter and all matter which may be found in text books. Matter thus left out during the reading of the paper may be left in for publication. If this rule is observed the reader of a paper will not be cut off at the most interesting portion, and the discussions will be much more satisfactory.

Three bills were presented at the late session of the Legislature, the purposes of which were to change, in various particulars,

NO MEDICAL LEGISLATION. the provisions of the existing law regulating the practice of medicine and surgery in this

State. One of these bills was not reported back from committee, one was withdrawn, and the other was defeated by vote in the Senate, where it originated. The advocates of these bills were very active in their endeavors to change the existing law, and in at least one instance resorted to misrepresentation in order to enlist the favor of legislators. Several regular and homeopathic societies voted unanimously in favor of retaining the existing medical law on the statute books, and those societies are among the most important in the State; and yet they were charged with being of no consequence and with acting in a biased manner by those who chafe under the wholesome restrictions of the present law. The State Medical Society was attacked and designated "a small coterie of men representing favored colleges," whereas the State Society is composed of representatives from forty counties, with a membership of over a thousand. The undoubted sentiment of the majority of California physicians is against change in the present law, at least until a better one can be suggested, and the lawmakers acted wisely in turning a deaf ear to the specious pleading of a *real* "small coterie of men representing" —themselves.

NATIONAL BUREAU OF MEDICINES AND FOODS.

FOR PURE AND HONEST DRUGS, CHEMICALS AND FOOD-STUFFS.

THE IDEA of establishing a board of qualified experts who should represent the interests and the support of the professions of medicine and pharmacy, and through the medium of such board secure, (1), more general conformity to the standards of the pharmacopeia; (2), drugs, chemicals and food-stuffs that will be actually as labeled and can be relied upon; and (3), deal in a proper professional and ethical manner with the large and ever-increasing number of proprietary preparations and mixtures that are being presented to the medical profession, as was first suggested by Dr. F. E. Stewart at the meeting of the American Medical Association in 1881.

This idea has been elaborated and plans have been formulated which it is thought will secure the objects desired. These plans have been approved by a number of representative manufacturers, physicians and pharmacists and it is evident that if the professional interests and the people of this country (and especially the members of the American Medical and the American Pharmaceutical Associations) really desire relief from the present unfortunate and distressing condition of *materia medica* and pharmacy, and of adulterated and dishonest food-stuffs, such relief is at hand.

Primarily, this plan contemplates the voluntary association of honest manufacturers and pharmacists who will agree with the board of experts representing pharmacy and medicine, upon standards of identity, purity, quality and strength, to which their products shall comply, and will further agree to carry out these standards and to comply with the necessary rules governing manufacture, etc.

Organization for the purposes indicated will be begun by the formation of a corporation on the membership plan—no stock issued and not for profit—under the name of the National Bureau of Medicines and Foods, and all the members of the American Medical and the American Pharmaceutical Associations are made members of this Bureau. It is proposed that the board of directors governing this Bureau be elected by these two associations, each having five directors, one from each association retiring annually and a successor elected for five years.

In order to indicate to the physician, the pharmacist or the purchaser such articles as comply with the standards of identity, purity, quality and strength, and may in consequence be relied upon to conform truthfully with the labels

affixed, and also to reward the honest manufacturer and pharmacist for his honesty and aid him in competition with dishonest or impure products, those manufacturers and pharmacists who affiliate with the Bureau in this work, will be authorized to print upon the label of such of their products as are placed under the supervision of this Bureau a certificate of identity, purity, quality and strength, of a form to be indicated by the board of directors.

All possible precautions in the way of frequent inspection, analysis or assay, will be taken by the Bureau in order to keep certified products up to the standard and to protect the Bureau certificate from fraud. In addition to the original analysis of each "batch" every article bearing the Bureau certificate will be purchased in open market from time to time and submitted to analysis, assay or comparison with standard samples.

The Bureau will also gather and diffuse reliable information relative to *materia medica* products, chemicals and food-stuffs and to those who manufacture or deal in the same, and it is believed that in a comparatively short time such information will replace and do away with the one-sided and unreliable trade literature, which is at present, in many instances, the only available source of information.

The work of the Bureau will be purely commendatory and not in any way condemnatory, so that it can in no event become an agent of blackmail.

As the Bureau is not a commercial enterprise, is not organized for a profit nor for money making, only the actual expense for doing the work required will have to be defrayed. It is proposed to assess this actual cost upon the various manufacturers and producers whose goods are certified by the Bureau, each in proportion to the amount and value of the goods so certified. This feature of the plan has been considered satisfactory by those who have signified a willingness to affiliate with the Bureau.

In addition to the two associations already mentioned, any scientific society that may vote to affiliate with the Bureau may do so, and its members then become members of the Bureau; and further, any person who so desires or who is willing to signify his approval of the aims and objects of the Bureau, may become a member upon the payment of one dollar per year.

PROPOSED CERTIFICATE OF INCORPORATION.

We, the undersigned, all being persons of full age, and at least two-thirds being citizens of the

United States, and at least one of us a resident of the state of New York, desiring to form a corporation, pursuant to the provisions of the Membership Corporation Law of the State of New York, do hereby make, acknowledge and file this certificate for that purpose, as follows:

First: The particular object for which this corporation is to be created is:

To determine upon and fix standards of identity, purity, quality and strength and to secure adherence to prescribed formulas of all drugs, chemicals, food-stuffs and of all articles intended for use in the arts and sciences or for human consumption; to diffuse accurate and reliable information as to such articles, preparations or products and as to those making or dealing in the same; to procure uniformity and certainty in the foregoing or allied trades; to supervise the manufacture, preparation or production and distribution by its members of all commodities, articles or preparations mentioned, and upon sufficient evidence that the standards of identity, purity, quality and strength, as well as adherence to prescribed formulas have been maintained and that all requirements for manufacture, preparation or production as set forth in the by-laws, rules or regulations made and provided have been complied with by the member manufacturing, preparing, producing or distributing such commodities, articles or preparations, to issue to such member a certificate of identity, purity, quality or strength and compliance with prescribed formulas, which certificate shall be of the form and nature and shall be used in the manner set forth in the by-laws, rules or regulations for that purpose made and provided; to settle differences between its members and to promote a more friendly intercourse between business men and between its members; to aid, stimulate and encourage research, investigation and study that will tend to enlarge, improve or increase and diffuse knowledge and information of *materia medica*, chemistry, pharmacy, pharmacology, pharmacognosy, pharmacodynamics, therapeutics and all arts and sciences allied thereto.

Second: The name of the proposed corporation is the NATIONAL BUREAU OF MEDICINES AND FOODS.

Third: Its principal office is to be situated in the city of New York.

Fourth: The number of its directors shall be ten.

Fifth: The names and places of residence of those persons to be its directors until its first annual meeting are as follows:

Sixth: The annual meeting shall be held on . . .
(Signed) Committee on Organization.

PHILIP MILLS JONES, M. D.,
Chairman.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

The regular monthly meeting was held on Tuesday evening, March 10, 1903, and in the absence of President Kengla, Dr. George H. Evans was called upon to preside.

Dr. L. W. Allen read a paper on "Pancreatic Calculi."

Dr. E. E. Kelly read a paper on "A Case of Pancreatic Cyst." (Dr. Kelly's paper will be found in full on page 143.)

Dr. Philip King Brown read a paper on "Clinical Pathology of Diseases of the Pancreas." (Dr. Brown's paper will be found in full on page 140.)

[The publication of Dr. George Goodfellow's paper, read at the last meeting, and announced to appear in this issue of the JOURNAL, for unavoidable reasons must be deferred.—ED.]

At the regular meeting of the Sacramento Society for Medical Improvement, held at the office of Dr. W. A. Briggs, on Tuesday evening, March 17th, Dr. T. W. Huntington read a paper on "Operative Treatment of Fracture of the Patella."

Samuel D. Gross Prize.—The Philadelphia Academy of Surgery announces that the Samuel D. Gross prize of \$1200 will be awarded January 1, 1905. The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding 150 printed pages octavo in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens." The essays, which must be written by a single author in English, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 South Thirteenth street, Philadelphia," on or before January 1, 1905. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

Adulteration of Foods.—While we wait in vain for our political bosses to do something for the health of the people, Queensland has perfected a system to protect her citizens from the scoundrels who seek to cheat them by the most vicious criminality in the manufacture of impure and poisonous foods. Strict laws are enforced in Queensland as to the substances that may and may not be used as ingredients, coloring matters, preservatives, etc., of beer, alcoholic liquors, mineral waters, fruit essences, foods, milk, tea, vinegar, butter, cream of tartar, etc. There are detailed laws also as to the carrying on of the businesses pertaining to the manufacture and sale of all such things, and a fine not exceeding \$250 is provided for infringement of any parts of the law. Were it not for the hope that the careless and corrupt and ignorant among our people and their lawmakers will at last renounce their ways and become interested in the health and welfare of the nation, the outlook for republicanism in government would not be hopeful.—*American Medicine*.

FINAL RESULT OF A LORENZ OPERATION FOR CONGENITAL LUXATION OF THE HIP.*

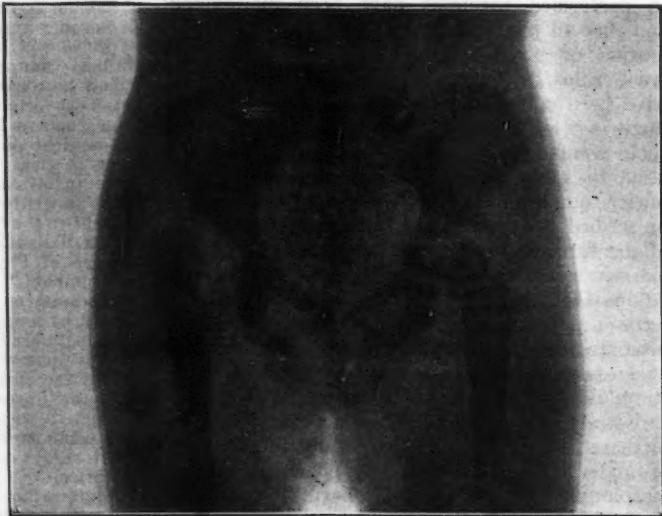
By EMMET RIXFORD, B. S., M. D., Professor of Surgery, Cooper Medical College.

DR. RIXFORD presented a case of Congenital Luxation of the Hip, showing the final result of Lorenz' operation, performed three years ago, giving the following clinical history:

M—O'B—, girl, aged 17 months, presented congenital luxation of the left femur in April, 1900, the head of the femur resting on the dorsum of the ilium. By the method of Lorenz reposition was made without great difficulty, and the pelvis and thigh enclosed in a firm plaster of paris spica. The child was very fat and very active, and soon after attempting to walk wriggled sufficiently inside the plaster to relaxate the hip. She was then brought again to the city and the dislocation again reduced and a new plaster spica adjusted with the thigh in adduction of 90°. Within a month luxation again occurred. It seemed impossible to hold the hip in position with a single spica. After two more trials, a double spica was applied with both thighs in abduction of 90° and posterior flexion of perhaps 5°. (The same position may be described as flexion of 90° and abduction of 95° on both sides.) This double spica was worn from November, 1900, to February, 1901, when it was removed, the child being comfortable and able to get about surprisingly well with the help of a chair. When the bandage was removed, the head of the bone was apparently in the acetabulum and extension of 30° to 40° could be made without pain and without relaxation. Taking no chances of relaxation, the double spica was replaced and worn till April 1st, making five months in double spica. A single spica was put on with the thigh extended, so that it was in position of 60° abduction. In June a spica was applied in 45° abduction in which the child could walk well. There was slight toeing outwards and some straddle, though the limp was slight. The parents said that she walked better in this spica than she did before the operation. In September, 1901, seventeen months after the operation, the plaster spica was finally removed. Extension was perfect, flexion was made without resistance to 90° and the function of the hip in walking was excellent.

The patient was not seen again till a few days ago. She is now four years old, walks without limp, does not even toe outward. Flexion, extension, abduction and adduction are normal and rotation nearly so, external rotation being about 5° greater than internal rotation. The trochanter on the luxated side is about a quarter of an inch higher above Nelaton's line than the right trochanter, but this may be partly accounted for by the twisting of the neck of the femur on the shaft, which is apparent in the radiograph taken a day or two ago. (Reproduction herewith.)

It was objected by Hoffa, to Lorenz' operation, that in many cases it resulted in transforming a posterior luxation into an anterior, in which position the function was good, though the



radiograph would show that the head of the bone was not in the acetabulum. There was question whether in this case the head of the bone was not in front of the acetabulum, but it would appear from the accompanying radiograph, as well as from the fact that the head of the bone can be felt, but is not unduly prominent, that it is in the acetabulum. Lorenz retorted when the above objection was made that it was a very desirable thing to have a perfect Roentgen radiograph, but that in default of it he preferred good function to a good picture. Certainly in this case the function is all that could be desired. There is neither

(Continued on page 147.)

* Presented before the California Academy of Medicine, February 24, 1908.

CALIFORNIA ACADEMY OF MEDICINE.

At the regular meeting of the California Academy of Medicine, held at the offices of Dr. Harry M. Sherman, on Tuesday evening, February 24th, Dr. Rixford presented a patient showing final result of an operation by Lorenz method, in a case of congenital luxation of hip. (Dr. Rixford's remarks and reproduction of a radiograph will be found on opposite page). Dr. Rixford also presented a patient showing result two years after removal of parotid gland for epithelioma. He said:

In May, 1900, the patient, T. K.—, aged about 50, gave the history of having noticed a pimple on the edge of the pinna above the tragus some eight months previously. This gradually increased in size, broke down and became extremely painful. On examination an ulcer was seen to involve the inner helix and to extend up on the scalp a short distance. The edges were undermined and the surface exquisitely tender when touched. A portion was excised for microscopic examination and found by Dr. Ophials to be epithelioma. On May 8, 1900, the entire inner helix and neighboring portion of the scalp were removed down to the periosteum, the outer helix sutured to the scalp and the interval of denuded periosteum covered with Thiersch skin grafts. There was too much bleeding for immediate application of the grafts, so they were kept in 0.6 per cent salt solution and put on some twelve hours afterwards. The patient left the hospital five days later, the grafts having lived. In February, 1901, the patient again returned with extensive recurrence in the parotid region and metastasis in the deep glands of the neck. A vertical incision seven inches long was made and the parotid gland, which could not be separated from the tumor, removed completely. The facial nerve was identified and preserved and the spinal accessory dissected free. The wound was closed with silk gut sutures. On the fourth day the wound was examined and found to have healed by primary union. The patient left the hospital on the tenth day. Since then the patient has been occasionally seen and thus far, at the end of two years, exhibits no sign of recurrence. For a few days there was paralysis of the facial, but the power of moving the eyelids and cheek muscles soon returned. The right half of the lower lip is, however, paralyzed, for it was impossible to preserve the cervical branch of the facial since it passed directly through the tumor mass. The cosmetic effect of preservation of the outer rim of the prima is excellent.

Dr. Douglass W. Montgomery presented a patient showing eruptions caused by iodid poisoning. The man had undertaken a self-cure with the use of a patent medicine. A microscopic specimen was shown indicating the similarity in structure to that found in the case of epithelioma.

Dr. Cheney inquired what, if any, external treatment had been employed. Dr. Montgomery replied that nothing was administered save some acetate of potash, but he did not think it did any good. The ordinary treatment for cleanliness was insisted upon. It was curious that while quite a large piece of tissue was removed from the tuberous growth above the eye, very little

scar resulted. This he thought due to the fact that the growth from which the section was cut was a new growth and none of the tissue proper had been excised.

Dr. William Fitch Cheney read a paper on "A Case of Pancreatic Cyst." (Dr. Cheney's paper will be found on page 136.)

Dr. L. W. Allen read a "Report of a Case of Pancreatic Calculi," exhibiting the dissected pancreas and contiguous ducts containing pancreatic calculi. (Dr. Allen's paper will be found in full on page 138.)

Dr. Rixford said the cases were very interesting. He had recently under observation a case of pancreatic cyst, the sequel of gall stones. Two weeks after operation it was discovered that intestinal contents came through the drainage tube. He reasoned that if these contents could get into the drainage tube, there was nothing to prevent the pancreatic fluid from passing out through the same channel. The drainage tube was withdrawn and the result was as expected. There was no recurrence of cyst.

Dr. Evans said there was danger from infectious material in case of presence of intestinal contents. What are these pancreatic calculi due to? Is it not probable that infection from intestines may travel up the ducts and so cause a pancreatitis? May not many cases of pancreatitis have this infectious origin? An obstruction or occlusion by gall stones at the ampulla of Vater, raising the pressure in the common duct above that in the pancreatic ducts would cause the passage of infectious bile into the pancreas. Some cases no doubt have this infectious origin.

Dr. Rixford said he had had four cases all associated with gall stone trouble or calculi, and these furnish some value as negative evidence in the etiology of pancreatitis.

Dr. Hunkin inquired what connection there is between the use of alcohol and pancreatitis?

Dr. Cheney replied that whatever effect the use of alcohol may have it does not affect the pancreas. He said that one interesting point had been referred to and that was that sugar had not appeared in the urine before the operation, but that it appeared after.

Dr. Moss said that in the case reported by Dr. Allen there was nothing diagnostic in the presence of pain in the back. It is common to have pain in the back from lesions of any of the abdominal viscera, and he found, in studying a number of cases to determine the localization of pain due to trouble in different organs, that pain in the back was not a diagnostic symptom of an individual organ.

Resolutions were presented and adopted deploring the death of Dr. James F. McCone.

SYMPOSIUM ON DISEASES OF THE PANCREAS.

REPORT OF A CASE OF PANCREATIC CYST.*

By WILLIAM FITCH CHENEY, M. D.

Professor of Principles and Practice of Medicine, Cooper Medical College, and Physician to Lane Hospital, San Francisco.

ON January 28, 1902, a man presented himself at the Medical Clinic of Cooper Medical College Dispensary, complaining of a "lump" in his stomach. On cursory examination a large abdominal tumor was found, and the man was referred to the clinic ward in Lane Hospital for further investigation. He entered the Hospital the same day.

The following history was elicited: The patient was 56 years old, born in Wisconsin, by occupation a fireman on engines. His family history was negative; likewise his history of previous illness, except for a so-called "abscess in the bowels," on the left side, two years before. This abscess kept him in bed eight weeks, but finally broke spontaneously, discharging through the rectum, after which he recovered and remained well. He never had gonorrhea; but had a sore on the penis twenty years previously, for which he was treated and which evidently had no secondaries following it. He used alcohol occasionally to excess, but not habitually; and smoked moderately. For years his work had been that of a miner, involving hard, muscular strain; but lately he had been an engine fireman.

In May, 1901, following some indiscretion in diet, he had an attack of abdominal cramps, accompanied by vomiting; this attack lasted for half a day, and was so severe that laudanum had to be taken. The next day, though weak, he was well enough to go back to work; but he had no appetite for two weeks afterwards and his food distressed him. Only a few days after this he noticed, for the first time, a little lump about the size of a walnut on the right of the middle line of the abdomen, high up. This had grown steadily ever since, until it reached its present size. He complained of no pain, except that just before meals, when hungry, the tumor seemed to become bunched and had a dull ache in it, relieved by taking food. His appetite was good, he had no nausea or vomiting, his bowels moved each day, he did not get short of breath easily, and had no dizziness. He had not lost in weight during the nine months since his illness began.

On inspection the patient was found to be a large, well-nourished man, rather florid in color, not pallid or icteric or cachectic. Before describ-

ing his abdominal tumor, let me say that no other part of the body showed any abnormality. Both lungs were clear throughout. The heart's area of dullness was normal, and the sounds, though distant, were clear. The radial pulse averaged 80 to the minute, was of fair tension and volume, regular in force and rhythm, but with the arterial wall moderately sclerotic. The urine was normal in amount and in analysis. There was no edema, no enlargement of lymphatic glands, no loss of knee-jerks.

On *inspection* of the abdomen a tumor was plainly seen. It occupied mainly the left hypochondrium and the epigastrium, extending slightly across into the right hypochondrium. Its contour was smooth and rounded. Its size, so far as its circumference was visible, was apparently that of an infant's head. It was evident that the tumor pulsated; that is, it was lifted up vigorously above the level of the abdomen with each beat of the heart. Furthermore, on watching the tumor for a time, its contour seemed to change—a bulging occurred in the left hypochondrium, gradually passed across the tumor to the right and then disappeared, leaving again the regular, rounded outline at first seen. These waves were not continuously present, but could always be brought out by kneading the tumor with the hand or by slapping it with a wet towel. Sometimes they were spontaneous. Invariably they ran from left to right. Finally, with a good light on the tumor, it was easy to see that it descended slightly on deep inspiration. Thus by the eye alone it was possible to determine several very important facts about this tumor—its location, its shape, its size, its apparent pulsation, the waves of peristalsis that ran across it, its descent on inspiration.

Palpation confirmed several of the facts as thus elicited: That the tumor was rounded and regular in outline, that it was about the size it looked to be, that it pulsated forcibly under the hand, especially at the summit, that it was moderately movable on deep inspiration. In addition, palpation gave three other important bits of evidence. First, the tumor was found to be distinctly elastic to touch, by which we learned that it contained fluid of some sort; second, there was no tenderness over the enlargement or about it; and third, the pulsation was much fainter at the sides of the mass than at its summit.

Percussion showed that over the summit of the tumor there was relative dullness, within quite a regular circle, while around this there was every-

where tympany; but the circular area of dullness was much less in diameter than that of the tumor as determined by palpation, showing that the mass must lie deeply and that only its top reached and pushed out the abdominal wall.

Auscultation revealed a bruit, best heard over the summit of the tumor and less distinct at the sides. This bruit was synchronous with the radial pulse; and we knew that it must be produced in the tumor or by the tumor, for there was no murmur over the heart to be transmitted to the tumor.

Such were the facts as found in the history and physical examination. What was their meaning? To reach a diagnosis it was necessary *first*, to consider what might possibly give rise to a tumor in the situation this one occupied, and *second*, to discuss each possibility in the light of the facts discovered. The possibilities were as follows: (1) an aneurysm of the abdominal aorta; (2) a new growth of the stomach; (3) a new growth of the colon; (4) a hydronephrosis; (5) a hydatid cyst of the left lobe of the liver; (6) a pancreatic cyst.

(1) An aneurysm of the abdominal aorta would have occupied the situation that this tumor occupied. It would have been likely to occur in a man of this patient's years, with the arteries sclerotic. It would have been rounded and elastic. It would have given pulsation upon palpation and a bruit upon auscultation. In fact, on superficial investigation it looked very much like an aneurysm. But on more careful examination, the evidence positively excluded this diagnosis. An aneurysm has expansile pulsation, that can be felt at its sides as well as at its summit. But this tumor had its maximum pulsation at its summit, as the patient lay upon his back, while there was little or no pulsation perceptible at the sides, when the tumor was grasped by both hands. Furthermore, when the patient was turned upon his hands and knees, no pulsation at all was felt, either at the summit or at the sides. The bruit likewise disappeared with the patient in this latter position. Thus it became clear that the tumor, whatever else it was, was not an aneurysm; but that it was situated deeply in the abdomen, lying upon the abdominal aorta, transmitting the latter's pulsation and by its pressure causing the bruit.

(2) The stomach came under suspicion, first because of the location of the tumor, and second because of the peristaltic waves discovered, running across it from left to right. But no malignant growth in the stomach could have reached such dimensions without producing symptoms, especially pain and vomiting, emaciation and cachexia. Further, no malignant growth of the stomach would have been so rounded and regular in contour, so elastic to the touch and so free

from tenderness. But to positively eliminate the stomach, two special methods of investigation were employed; *first*, stomach analysis, and *second*, stomach inflation. Analysis of stomach contents, removed one hour after the Ewald test meal, showed a total acidity of 64, of which 50 parts were free HCl; in other words, a slight hyperchlorhydria, the very opposite of the characteristic analysis in malignant disease. Inflation of the stomach with carbonic acid gas gave even more valuable evidence; for after this was done nothing but tympany was found over the tumor on percussion, and yet the tumor had not been displaced by the distension. Evidently, therefore, the stomach lay directly in front of the tumor, between it and the abdominal wall. By its pressure on the pylorus from behind the tumor had caused partial occlusion, necessitating hypertrophy of the muscular wall of the stomach, and so giving rise to the visible peristaltic waves.

(3) The transverse colon lay in the region the tumor occupied and might possibly have been its seat. But there had been no symptoms pointing to an affection of the bowel, no colic, no constipation or diarrhea, and no loss of weight. The waves of peristalsis observed might have occurred in a hypertrophied intestinal wall, but they would then have run from right to left, instead of from left to right. Most important of all, the tumor had been found by investigation to lie behind the stomach, an anatomical situation that the colon or a new growth in it could scarcely by any possibility attain.

(4) A hydronephrosis or malignant disease of the left kidney would not have been situated in the epigastrium and hypochondrium, but rather with its upper pole in the hypochondrium the tumor would have extended downward and inward to the lumbar and umbilical regions. A malignant growth, by the time it reached this size, would have caused marked cachexia and emaciation; and the urine would have contained blood, either constantly or occasionally. A hydronephrosis would probably have given a history of marked decrease at times in the size of the tumor, accompanied by an increase in the amount of urine. But the man had no cachexia or emaciation; his urine was perfectly normal and remained so constantly during the days he was under observation; his tumor had never varied in size, except to grow steadily larger; and he secreted each day an amount of urine within the normal range and never widely varying in amount.

(5) Could the cyst be one of the liver? The main argument against this was its situation with reference to the stomach. Having found that the stomach lay in front of the tumor, the tumor could not possibly occupy the left lobe of the liver, because of the anatomical relation of these

viscera. Furthermore, there was found a much greater excursion of the liver on deep inspiration than of the tumor; for the liver descended approximately 7 cm., and the tumor only $3\frac{1}{2}$ cm., which indicated quite positively that the tumor did not form a part of the liver.

(6) By a process of elimination, therefore, pancreatic cyst became the most likely diagnosis. On the other hand, the essential points in the history—a gradually increasing tumor, without pain, vomiting or wasting—corresponded with those found to occur in cyst of the pancreas; while the physical signs were those of a cyst originating deeply within the upper part of the abdomen, pressing on the abdominal aorta posteriorly and upon the stomach anteriorly, all of which would be true of a pancreatic cyst. The absence of any of the signs commonly considered diagnostic of pancreatic disease, viz., glycosuria, jaundice and fatty stools, was not looked upon as vital to the diagnosis, because with the cases of cyst reported these conditions have been far from constant.

After a week of observation and investigation a diagnosis of cyst of the pancreas was thus reached; and on February 6th the cyst was evacuated by Dr. Stanley Stillman, and about one quart of fluid removed. This fluid was sent to the pathological laboratory for examination, and the report upon it, by Dr. William Ophüls was as follows:

Dark yellowish red, slightly turbid, thin fluid; no bacteria in coverslips or culture; after sedimentation, the fluid is clear, dark yellow; at the bottom there is a thin layer of red blood corpuscles, and on the surface a thin scum of fat, of which some is free, some enclosed in large cells. The fluid contains a considerable amount of albumen and a little reducing substance (Fehling's test). On addition of acetic acid a white flaky precipitate is formed, which redissolves in an excess of acetic acid. The fluid dissolves several small shreds of fibrin (about 2-3 mm. in diameter) in the incubator in about twenty-four hours. On one glass the fibrin has disappeared completely; in the other there are small remnants left. The fermentation test shows that the reducing substance is sugar and about 1.5 volume of CO_2 is formed.

The patient made an uneventful recovery and left the hospital on March 9th. He was under observation until early in April, having his external wound dressed, (drainage tubes having been employed). On April 1st he was referred back to the Medical Clinic from the Surgical side, because he had developed some edema of the legs. This led to an examination of the urine, and it was found that it now contained 2.2 per cent of sugar. Shortly after that the patient left the city and I have never since seen him. A letter, however, was received from him since this paper was written, bearing date of February 20, 1903, in

which he says: "At the time I left San Francisco, April 3, 1902, the wound where the incision was made lacked about three-fourths of an inch of being healed; but it was completely healed by May 1st, and has never discharged since. I went to work in May at my old job of firing and running an engine, and worked at it all summer. During the winter I have been mining. My health is good and has been good ever since I left the hospital, a year ago."

REPORT OF A CASE OF CHRONIC INTER-LOBULAR PANCREATITIS, PANCREATIC CALCULI, WITH MULTIPLE CYSTS OF THE PANCREAS.*

By L. W. ALLEN, M. D.

Resident Physician and Surgeon, St. Luke's Hospital, San Francisco.

THE patient, Mrs. K. C., 30 years old, first entered St. Luke's Hospital March 22, 1902, as a patient of Dr. Clarke J. Burnham, giving the following history:

Family—Mother and one sister died of pulmonary tuberculosis.

Precious—Has been delicate since childhood. Rheumatism at 9; miscarriage at 17; pneumonia at 20; metritis and ovaritis at 22; previous to one year ago she had been a drinker of alcoholic stimulants; since then she has not touched liquor at all.

Present—Dates back nearly one year. For the first two or three months patient complained of feeling badly; troubled with nausea, indigestion and general malaise. Then, nine months ago, she suffered from an attack of jaundice, lasting about one week. After this she suffered some from indigestion. Five months ago she had an attack of severe, gripping, paroxysmal pains in the epigastrium, lasting for several days. One month afterward she had a similar attack, but added to her epigastric pain she began to have a severe, dull heavy pain in both lumbar regions. This was ushered in by a chill, followed by fever, accompanied by frequent micturition; but very little urine was voided. From this time on she suffered from attacks about every two weeks. The pain left the epigastric area and centered in the lumbar regions, principally on the right side, and gradually extended down toward the pelvis. Patient had pain in the right shoulder all the time, increasing during the attacks of pain below the diaphragm. For the last four months the stools have been clay-colored at times. She has lost fifty pounds in weight during the last year. She has also suffered from hemorrhoids for the past year, and on the day of admission to the hospital she passed a large clot of blood while straining at stool. Anorexia has been present all of the time. She has never noticed any blood in the urine, nor excessive amount of urine after attacks of pain. No history of passing gall or renal calculi.

Examination on Admission—Pulse, 80; respiration, 20; temperature, 98.6° . Fairly well nourished, rather anemic; skin, sallow; conjunctive, slightly yellow; tongue, coated. Nothing unusual in lungs, heart or thoracic wall.

Abdominal Inspection—Some fullness in right upper

* Read before the California Academy of Medicine, February 24, 1903.

quadrant. Palpation, right rectus very rigid. Two very painful points found on superficial and deep pressure, one in the epigastrium, just to the right of the median line opposite the tenth interspace, the other directly over the gall bladder. The edge of the liver could be felt one inch below the costal margins, hard and slightly tender. Extending from the tenth rib toward the umbilicus beneath a very tender area, a decided sense of resistance was felt, as of a mass, although on account of the muscular rigidity and tenderness it was not possible to diagnose a tumor from palpation alone. Palpation of the kidneys and pelvic viscera was negative. Percussion—Liver dullness enlarged downward about one inch below free border on right side. Dullness continuous with the liver, and extended across the epigastrium to the left side opposite the sixth interspace, over the painful epigastric area. This dullness also extended from the gall bladder region, triangular shaped, with the apex about one and one-half inches from the umbilicus. Elsewhere the abdomen was moderately tympanitic. Auscultation developed nothing new.

Urine—Amber, acid, 1018; no sugar, slight traces of albumen and bile. Microscopically it showed calcium oxalate crystals, pus cells, granular casts, few red cells.

Stools—No free fat found. They were clay-colored, however.

Blood—Hemoglobin, 75 per cent; reds, 3,600,000; whites, 9200. Differential count, large mononuclear, 8 per cent; small lymphocytes, 21 per cent; eosinophiles, 4 per cent; neutrophiles, 67 per cent.

During her first stay in the hospital her temperature was never higher than 99.6°, and usually was normal. Her pulse varied between 70 and 90. She was put upon a liquid diet, given K I. t. i. d. in increasing doses for three weeks. Carlsbad salt 3i q. a. m. Unguentum hydrargyri over the liver. As her bowels moved more frequently the color of the movements changed from white to dark brown, and the tumor in the region of the gall bladder disappeared. With it left the yellow of the conjunctivæ and the bile from the urine. As the urine increased from 20 oz. to 106 oz. the pus in it diminished, though never disappeared. Red blood cells were no longer found, nor were casts. Sugar was never found in her urine at this time. During her stay she had a very severe attack of pain in the left hypochondrium. She suffered considerably from the night sweats, which gradually improved. On leaving the hospital, May 1, 1902, the tenderness over the liver and the area of gall bladder enlargement had entirely disappeared. The digestion was better and the patient seemed on the road to a slow but sure recovery.

After leaving the hospital the patient was better until August. In August, September and October she again had attacks similar to those described above. In August a tumor was to be felt in the right epigastrum; in September it could not be felt, but the abdomen was very tender over this area. In this month very great tenderness developed over the left kidney. In the October attack, about two weeks before re-entering the hospital and three and a half before death,

she passed large quantities of urine in which sugar was for the first time discovered, amounting to 2½ per cent, and within four days disappeared entirely. She was now having constant pain in the epigastrium, distress after eating, high fever during the attacks of pain, with almost constant night sweats, and a steady loss in weight.

October 28, 1902, she was readmitted to the hospital for observation and treatment. Patient had been rapidly losing weight, so that her general appearance was one of great emaciation. P., 80; R., 20; T., 100.8°; 4 p. m., P., 80; R., 20; T., 102°. Bowel movements now yellow. Have not been clay-colored for some months. Stools contain bile. Not examined for fat until after the operation, when they were found to contain a little.

Urine—40-90 oz., acid, 1020, no sugar; trace of albumen; no casts, considerable pus.

General Condition—Very emaciated and anemic; no jaundice; lungs, heart and thorax negative.

Abdomen—Area of tenderness and rigidity over right, upper quadrant, mostly in the epigastric half, just to the right of the median line; no dullness in the sides; moderate tympanites over the rest of the abdomen. Liver dullness to free margin of ribs; no enlarged splenic dullness.

Patient complained of constant pain over the area of epigastric dullness. She had exacerbations of pain in the right side, and after her admission she had a very severe attack of pain develop in the left side anteriorly when the muscles there were so rigid and this area so tender that a pyonephrosis with a perinephric abscess was thought to be present in addition to the epigastric trouble. These lumbar pains were always relieved for a time by hot applications.

No tumor could be felt in the epigastrum on account of the extreme rigidity of the abdominal walls, but there was a distinct increase of tension over the most tender area, a space the size of a dollar just to the right of the median line half way between the xiphoid cartilage and the umbilicus. The constant pain over this area became a thing of minor importance to her during the attacks of pain in the lumbar regions, particularly the left.

Her digestive system was very much upset. She vomited at the least provocation. There was a tendency to diarrhea, with blood in the stools.

Course in the Hospital—After a day her temperature came to normal; pulse always between 70 and 80. Leukocyte count on admission, 22,200, dropping to 13,400 in forty-eight hours. Stomach remained upset and she did not gain. Had considerable sweating at night.

On November 3d the pulse rose from 70 to 90, temperature from normal to 101.8°. The leukocytes rose to 26,000, and as she was decidedly losing ground, an exploratory laparotomy was decided upon for a possible chance of relief. At the time of operation we recognized that there were two distinct conditions with which we had to deal. One, a suppurative condition of the kidneys, probably tubercular, involving both organs in all likelihood. The other, some lesion involving the digestive apparatus—stomach, liver,

gall bladder or pancreas. In determining a diagnosis it was difficult to decide how much the temperature and leukocytosis were influenced by the kidney lesion and how much they were due to the epigastric trouble. As the pus in her urine decreased her leukocytosis dropped from 22,200 to 13,000, and the temperature fell to normal. Then, on November 3d, when her temperature rose to 101.8° and the white blood cells to 26,000, there was a large increase in the amount of pus. Did the pyonephrosis have no influence? In which case we must suppose that all the pus cavities had a free drainage and ignore the attacks of pain in the lumbar region, which accompanied these elevations of temperature and leukocytosis. Besides, the variations in the amount of pus in the urine seemed to bear some relation to these changes in temperature and leukocytosis which would lead us to believe that the kidneys did influence their production. At all events this complication made the temperature and leukocyte count of negative value, and threw us, for the determination of our diagnosis of the epigastric lesion, upon the history and the symptoms, subjective and objective.

From these we have intermittent attacks of severe epigastric, colicky pains, accompanied by vomiting, occasionally by jaundice and clay-colored stools; at other times by diarrhea, sweating and fever, always by a progressive emaciation. As a positive guide, the jaundice, clay-colored stools and bile in the urine led directly to some obstruction in the common duct. The gall bladder tumor disappeared when these symptoms disappeared. There was no fever or leukocytosis during this period. This would make the gall bladder tumor of the early history one of retention from the common duct obstruction. The obstruction acted intermittently and had not been present for several months previous to her second entrance to the hospital, her other symptoms all the time continuing. This would suggest choledochus calculi, or it could be attributed to a catarrhal obstruction. It should have also suggested pancreatic calculi. It spoke against malignancy. But the progressive and rapid emaciation, the constant pain and the feeling of resistance as of a tumor beneath the tender epigastric area indicated a tumor of the epigastrium in the region of the pancreas, or pylorus of the stomach. At this time all the symptoms of choledochus calculi, or common duct obstruction, were absent, but the patient was really very much worse. This shut out the gall bladder and the common duct from the diagnosis.

Neither the history nor symptoms were those of a tumor of the pylorus. The question, then, was whether it was a tumor of the pancreas or an abscess of the left lobe of the liver. The physical signs were very similar to those of an abscess of the left lobe, where the pus is very near the surface and causing a circumscribed peritonitis corresponding to her tender epigastric area. It could have developed after the obstruction from an extending cholangitis. She had the diarrhea and sweating with temperature and leukocytosis, but no chills. The sweating, temperature and leukocytosis, however, could all be due to the kidney lesion.

The only tumor of the pancreas considered was a malignant one, on account of the rapid emaciation, together with the constant pain and the resistance as of a tumor at the position of the head of the pancreas. But the jaundice was not permanent, a condition I have always found in cancer of the head of the pancreas; there was no ascites or edema of the lower extremities. The local tenderness was much greater than is usual with cancer of the head of the pancreas. This also excluded the mobility of the tumor as a diagnostic factor. Cysts of the pancreas and

pancreatic calculi were not mentioned. Those few cysts I had had the fortune to see had all presented below the stomach and had been non-inflammatory, with no marked emaciation, digestive disturbance of any severity, or jaundice. There was no thought of chronic pancreatitis, or pancreatic calculi.

Thus no very positive diagnosis was made, but an exploratory laparotomy was thought to be indicated. On November 4, 1902, we performed a laparotomy, incising over the area of epigastric tenderness just to the right of the median line. Two cysts of the pancreas were opened—one, the size of an orange, presenting between the lesser curvature of the stomach and the left lobe of the liver, in which two stones were found; the other, the size of a walnut, behind the first one and apparently having no connection with it. They were both aspirated, drained and packed, the posterior one through the anterior, which was in turn sutured to the abdominal wall. The patient was returned to her bed as soon as possible. She grew continually and rapidly worse after the operation. She was able to retain but little in her stomach, and her bowels moved continuously, so that it became impossible to nourish her. She passed but little urine during the first few days, and died on the fifth day after operation without signs of peritonitis, but with her former symptoms exaggerated. There was but little discharge from the cyst and the skin about the wound was not irritated. The fluid removed from the cysts contained no pancreatic ferments and was sterile. The stones contained calcium salts.

AUTOPSY.

This had to be done through the wound, and hastily. There was no evidence of peritonitis or leakage. No fat digestion in mesentery or surroundings. Then pancreas, with its cysts, the gall bladder, cystic, common and portion of the hepatic ducts, with pyloric end of stomach and about four inches of the duodenum were removed in mass. The autopsy developed the fact that there was no left kidney, so that all her intense pain in the left lumbar region was most probably from the calculi in the pancreas, a symptom given by some as differentiating pancreatic from choledochus calculi. The right kidney was half again as large as normal and contained numerous abscesses the size of chestnuts in its cortex. The specimen removed showed the cystic, hepatic and common ducts patent. The gall bladder walls were slightly thickened, but no calculi were found in the bladder. The pancreas was greatly atrophied and calcareous particles were found throughout its duct. At the aurifice of Wirsung's duct was a stone the size of a small marble which almost entirely obstructed its lumen and at the same time partially filled the opening from the duct into a third cyst, the size of a walnut, not felt at the time of operation because it was not under tension, as the opening was still patent. The other cysts were entirely separated from the duct, at the nearest point by only one-eighth of an inch. These conditions were interesting as showing the history of some cyst formations. The large one anteriorly, opened at the time of operation, in which two stones were found,

had evidently been produced by the stones in the duct; the stones passing through into it, and finally the cyst closing behind them. It was a cyst of long formation, as no digestive ferments were found in it. The early jaundice was produced either by a preliminary swelling in the head of the pancreas, or, as the common duct passed directly through it; the passing of a pancreatic stone into the ampulla of Vater; or thirdly, by a biliary stone in the common duct, which had made its exit into the intestine. This last supposition is quite improbable, as there were no other stones in the gall bladder, or evidence of any having passed through its duct either in the history or autopsy findings.

The microscopical report, for which I am indebted to Dr. Mary Halton, pathologist of St. Luke's Hospital, shows an advanced stage of interlobular pancreatitis, with the Islands of Langerhans still well preserved, verifying Opie's observations that in this type the appearance of sugar in the urine occurs only at the very last stages of the disease.

CHEMICAL PATHOLOGY OF PANCREATIC DISEASE, WITH REFERENCE TO DIAGNOSIS.*

By PHILIP KING BROWN, M. D.

THE IMPORTANCE of the pancreas in the digestive process is so great that it seems strange that we should know so little of its pathological disturbances during life, and that our means of diagnosis of slight disturbances should be so limited. The attention which the organ and its functions has attracted in the last decade, has been productive of a number of extremely significant points. It is probable that there will be constantly new light thrown upon the function of the organ, and the end result of its activity, as found in the excretions, will enable us to determine the condition of the organ more accurately than at present. We are chiefly interested now in determining such conditions of the pancreas as result from tumors, cysts, calculi, and the inflammatory or degenerative processes due so frequently to primary disturbances in the gall bladder and occlusion of the common duct, and to passage of bile and infectious material into the pancreatic duct. I shall not concern myself with giving you the symptoms of these various conditions, but desire to call attention to such means as we have at hand of determining the activity of the gland, and of drawing conclusions in regard to its condition by examination of the excretions, by blood examination and by therapeutic measures. For it is certain that the functional activity of the gland can be definitely influenced by certain chemical stimuli, as for instance, the administration of

hydrochloric acid, the extracts of pancreas itself, and by the administration of fat foods, and definite inferences may be drawn by the results obtained through these measures.

What concern us chiefly are the alterations in blood, urine and feces, and what may be learned from examination of the contents of cysts of the organ or fistulous discharges. In regard to the blood examination it is clear from the cases reported from the Massachusetts General Hospital, and by Opie in the *Johns Hopkins Bulletin*, January, 1901, that hemorrhagic pancreatitis causes a distinct leukocytosis. The relation of the leukocyte increase to the disturbance of the pancreas may be of little diagnostic value, because local peritonitis in the omental bursa will cause the same leukocytosis and a very strikingly similar pain, as will also perforating ulcer of the stomach, particularly of the posterior wall. Suppurative cholecystitis occurring without jaundice or tumor may complicate the diagnosis somewhat. Cysts and tumors of the pancreas are not apt to make quantitative blood changes, except in the anemia which may result, and except there be actual encroachment upon fundamental parts of the pancreas, either directly or by pressure, when we have the most significant clinical change, the appearance of glycosuria, of which I shall speak more fully later. With the occurrence of glycosuria, and of particular value in the diagnosis of the extreme conditions resulting from it, notably the diabetic coma, the methods of examination of the blood proposed by Williamson and Bremer are of extreme importance. These methods consist in utilizing the difference in the affinity to analine dyes of diabetic and nondiabetic blood. It has been pretty definitely settled that the reaction resulting from the addition of a weak alkaline solution of methylene-blue to the blood, noted by Williamson of Manchester, depends upon the presence of an increased quantity of sugar. Hyperglycemic blood decolorizes the solution on boiling, while normal blood does not. Bremer's test, also proposed as a method of determining hyperglycemia, has not been shown of definite value, because of the probability of its reacting to other substances than sugar. Bremer's method consists of staining a thick spread blood film heated to 140° C. with a 1 per cent aqueous solution of congo-red. Normal blood looks yellow to the eye, whereas diabetic blood looks greenish-brown. The reactions have been studied carefully by Futcher of Johns Hopkins, who arrives at the conclusion that they "are interesting but of no great diagnostic importance." Bremer's claim that the reaction persisted after the sugar disappeared from the urine was not substantiated. This was also

* Read before the San Francisco County Medical Society, March 10, 1903.

true, in one case at least, of Williamson's test, but no reaction at all occurred in another, although over 200 gms. of sugar were eliminated by the patient that day.

The urine in diseases of the pancreas is an index to us of the functional activity of the gland, not alone in its relation to the burning of sugar in the body, but equally in its relation to the splitting of fats. Langerhans has shown that the disseminated fat necrosis accompanying acute pancreatitis, and certain other conditions of the organ, is due to a fat-splitting ferment, and Flexner has shown the presence of this ferment in the necrotic areas. It remained for Opie, following the same line of thought, to trace the elimination of this fat-splitting ferment, and in May, 1902, he reports a case in which it was found present in the urine of a fatal case of diabetes from acute pancreatitis. The elimination of the fat splitting ferment by the urine is taken as evidence of its occurrence in this disease in the circulation. The method used to determine its presence was proposed by Castle and Loevenhart in the *American Chemical Journal*, Vol. 24, No. 6. Ethylbutyrate, when acted upon by the ferment, is decomposed with the formation of butyric acid, whose presence is determined in the urine previously neutralized with potassium hydroxide by the addition of litmus solution. The control test is conducted by boiling the urine in order to destroy the ferment. Both specimens are subjected to a temperature of 37° C. for 24 hours.

An increase in *indican* in the urine invariably accompanies all types of pancreatic disease in which the activity of the gland is in the least affected. This is due to the putrefactive changes brought about in the proteids, and indican is apt to increase as the activity of the pancreas grows less, so that in cases where the pancreatic duct is obstructed, indican appears early and increases steadily to a marked degree, unless the obstruction is removed. The excessive proteid diet which is resorted to in order to satisfy hunger in certain advanced cases, adds greatly to the opportunity for putrefactive changes. With the increase in indican there is almost constantly a corresponding increase in the ethereal sulphates.

The presence of *fat* in the urine, as in the blood, is of little interest in the diagnosis of pancreatic disease, because it is present in various cachetic conditions, notably gangrene and pyemia, and in infections of the bone marrow after fractures, in chronic heart and liver disorders and even after the excessive use of fats internally or by inunction. The presence of fat acids long since noted in the urine of cases of pancreatic disease by von Jaksch is readily accounted for by Opie's discovery in the urine of a fat-splitting ferment. The fat acids may appear as the calcium and magnesium salts of the higher acids,

and their crystallized appearance is said to confuse them with tyrosin, which they resemble somewhat.

The presence of oxybutyric acid in the urine, a late symptom of both pancreatic glycosuria and diabetes of other than pancreatic origin, is an indication that alkali is being removed from the body in excessive quantity, and to avoid or postpone acid intoxication must be supplied in some way. Other organic acids are occasionally present in the urine in advanced cases of glycosuria from whatever cause, but not in sufficient quantity or with sufficient regularity to be of importance. The chief one of these is diacetic acid, which rarely amounts to more than 10 per cent of the organic acid present.

The chief source of alkali used for the neutralization of the organic acids is ammonia in the formation of which both cell metabolism in the body and decomposition of proteids from the food take part. The ammonia so used is ordinarily eliminated in large part as urea, but in this acid intoxication it neutralizes the pathological acids as far as it can, and they are eliminated in combination as ammonium salts. It has recently been shown that the administration of large quantities of bicarbonate of soda in advanced states of acid intoxication has a striking power of preserving the *native alkali*, the sodium and potassium salts of the blood, which are encroached upon by the organic acids, thus relieving the condition in the same way that ammonia does.

The presence of sugar in the urine of certain persons has been definitely known since the publication of its discovery by Dobson, an English physician, over a hundred years ago. It is probable that centuries before that the fact of a peculiar sweetness to some urines was a matter of note, although the cause of this was not understood.

Since the memorable work on the pancreas of von Mehring and Minkowski, in 1890, it has been definitely proven that this organ plays a very important part in most cases of glycosuria, and it is even contended by some that as distinctly distant a condition as the glycosuria of Claude Bernhard, caused by puncture of the floor of the fourth ventricle in some way is associated with nerve changes in this organ.

Von Mehring and Minkowski found that extirpation of the pancreas in a large number of dogs was rapidly followed by all the symptoms of diabetes, the sugar elimination reaching its height in twenty-four to forty-eight hours. They further found that if a very small part of the pancreas were left behind, glycosuria did not result, and still further that if the pancreas were transplanted, and then later a large part of it removed, glycosuria did not result, unless atrophy

of the remaining part took place. A further striking phenomenon was that ligation of the pancreatic duct cutting off the supply of pancreatic juice from the intestine did not cause glycosuria, so long as there were no changes in the pancreas. This has led to the theory that the pancreas normally manufactures an internal secretion, something as the thyroid or suprarenal glands do, and that this ferment is necessary to the splitting of sugar. However this may be, the attention of the pathologists has been centered on the pancreas in all cases of diabetes and the investigations of Lagnesse, Schäfer, Diamare, Ssobolew, Opie, Wright, Herter and others, go to show a greater and greater percentage of cases of diabetes in which some lesions have been found in the islands of Langerhans, and the theory of their connection with glycosuria is strengthened greatly by the fact that no instance is on record of the islands being materially affected without there being an accompanying glycosuria.

The examination of the feces offers us both chemical and microscopical evidence of a diminution or absence of the pancreatic fluid. For clinical purposes microscopic examination is of the greater use, because certain of the changes are very easily seen and because chemical methods for fecal examinations are very complex.

The digestive power of the pancreatic juice is dependent upon at least three ferments, a fat-splitting, a starch-converting and a peptonizing ferment, known respectively as steapsin, amylopsin and trypsin, and the disturbances due to the diminution in any one or all of these ferments have definite effects upon the food taken into the stomach. The failure of the fat-splitting ferment, whose function is the emulsification of fats in which it co-operates with bile, and the splitting of neutral fats into fatty acids and glycerin, causes an increase of neutral fat in the feces. As a certain part of the fat acid is absorbed as such, recombining with the glycerin, the failure of the fat-splitting ferment deprives the system of a certain amount of one of the necessary components of food. The total amount of neutral fat eliminated may be much diminished by the fat-splitting action of bacteria in the intestinal tract.

The occurrence of a large discharge of fat with the feces, coloring it a dirty gray and giving it a slimy, glistening appearance, is not necessarily due alone to pancreatic disease. An accompanying jaundice suggests the failure of bile as the cause, but does not exclude coexistent disturbance of the pancreas. Increased fat acids do not help us to distinguish pancreatic from bile disturbances, but the presence of an excessive amount of neutral fat with diminished fat acids, points distinctly to a defective pancreatic secretion. This is an extremely significant point, and one in which accurate determinations of the fat

components may be the means of determining a pancreatic lesion. It is important to remember that the presence of a normal amount of fat acid which may be produced by bacterial action, does not exclude pancreatic disease, and it is often necessary to weigh carefully the evidence from examination of the feces of an activity or failure of two of the pancreatic ferments in distinguishing disease of the pancreas from a failure of the functional activity of bile.

The failure of proteid-splitting action gives us in the feces one of the most striking results of pancreatic disease, and one of the most easily recognized, the appearance of large numbers of particles of undigested meat fibers and particles of casein. As proteid digestion is carried on in the stomach to a considerable extent, without the aid of the pancreatic ferment, it is probable before undigested proteids are present to a marked degree in the stools that the amount ingested should be much increased. When the stomach is somewhat taxed, particularly when the hunger symptoms begin, the failure of the pancreatic function is brought strongly into evidence. The impaired digestion of carbo-hydrate food, from diminution or failure of amylopsin, is probably one of the commonest causes for intestinal flatulence, and an evidence of fermentation in the feces is apparent. The resulting alcoholic intoxication or distinct poisoning from the organic acids, are causative features in the headache and drowsiness from which patients in this condition suffer. Of the glycosuria, which results from the absence of the sugar splitting ferment, I have already spoken.

The examination of fluid removed from cysts of or adjoining the pancreas is interesting, but may be of little or no value. Inasmuch as such cysts may be of immense size it seems desirable to remove the fluid by tapping in the early stages of operation, and that gives us the chance of examining it under favorable conditions. Cysts of the pancreas may not reveal a trace of any of the active ferments of that organ. Gussenbauer reports a case in which this was true. A fistula persisted and the discharged fluid was thoroughly examined, also with negative result. The fact of a pancreatic origin of the cyst was confirmed at autopsy. The presence of a starch-splitting ferment in cystic fluid has no influence in determining the origin of the fluid, because the ferment is present in various forms of cystic tumors found in the abdomen. Any or all the ferments may be present also in the pseudo-cysts or para-pancreatic cysts which arise outside but adjoining the pancreas from disease or injury to it.

Hydatids of the pancreas are practically unknown and the contents of a hydatid cyst are rarely hemorrhagic, whereas pancreatic cysts most always contain a brownish pigment from

altered blood coming from the hemorrhages so frequently associated with the pathologic conditions of the pancreas.

RÉSUMÉ.

Glycosuria as a symptom of pancreatic disease seems to be definitely associated with pathologic conditions in the islands of Langerhans, and is a development in many cases of the later periods of the disease. Processes involving the islands of Langerhans primarily do occur, and thus far no case has been reported in which such a process is not accompanied by glycosuria, although glycosuria *does* occur in cases in which the islands have been found unaffected at post mortem.

Steatorrhea is a symptom both of failure of the bile and of the pancreatic fluid. A failure of the bile to enter the intestine has a distinct influence in lessening the flow of pancreatic fluid on account of the stimulation which bile is to the activity of the pancreas. Further occlusions of the lower end of the common duct shut off the pancreatic fluid, and if bile is forced into the pancreatic duct in consequence, acute inflammatory disturbances may result in the gland. The steatorrhea of primary pancreatic disease in which there is a diminution or absence of pancreatic secretion is marked by an excessive increase in the neutral fats, reaching even 60 per cent of the total excretion, instead of the normal, of about 10 per cent to 15 per cent, and further by a striking diminution of fatty acids. With the steatorrhea is microscopic evidence of a failure of protein digestion, shown by the finding of muscle fibers and casein coagula.

Fermentative and excessive putrefactive changes in the feces are evident to the eye and nose.

Indican is present in increased amount in the urine, as are also the ethereal sulphates.

The methylene blue test of Williamson may be used to determine a hyperglycemia in a suspected case of diabetic coma, when means of obtaining urine are not at hand. Bremer's test is less useful in the same condition.

Lipuria and lipemia are interesting, but not pathognomonic symptoms.

The presence of a fat-splitting ferment in the urine might be of extreme value in fixing a pancreatic connection to a glycosuria or to an acute disturbance in the epigastrium.

A CASE OF PANCREATIC CYST.*

By ELMER E. KELLY, M. D.

THE PANCREAS is an organ so deeply hidden away in the abdominal cavity and so hedged about with delicate anatomical structures

that until recent years it has been considered a *terra incognita* by the abdominal surgeon. But with the advent of aseptic surgery the emboldened surgeon has explored every tissue and organ until no unknown quarter remains.

Even yet, however, there are organs and structures that have so rarely been removed or operated upon that every case deserves to be reported that the general store of knowledge may be increased and the statistical value of the various operations obtained. For this reason I have thought it worth while to make a record of the following case of pancreatic cyst:

G. W. C., aged 41, appeared at my office November 14, 1902, and from him I gleaned the following history:

Ten years ago the patient was suddenly attacked by excruciating pain in the epigastric region, accompanied by vomiting, after having eaten heartily of pork sausages. His physician thought the probable cause of the disturbance was due to the meat he had eaten.

The attack lasted thirty-six hours and by other physicians was diagnosed to be due to gall stones. There was no icterus and no lack of bile noticed in the patient's stools. An interval of six months passed before another attack, but three months later a third attack occurred and followed pretty much the same course as the previous ones, except that the patient lost flesh rapidly and became greatly debilitated. Four years after the initial attack he came to San Francisco and was treated for kidney disease, with marked improvement. Six months later he suffered a severe and more prolonged attack of pain, noticeable especially after eating. For the next twelve or fourteen months he was able to attend to his business, though he was not at all well. Then followed a series of severe though short attacks of pain which were only relieved by the use of morphine. At this time the malady was diagnosed as inflammation of the bowels and long shreds resembling mucous membrane were passed with the stools. Various plans of treatment were followed without material benefit. In 1898 he had a very severe attack lasting eleven days, during which, for the first time, he became deeply jaundiced, which continued for seven days. A large number of gall stones were passed in the stools, after which he was relieved of his pains. For one year he remained free from gastric pain and irritation.

Upon the 17th of August, 1902, he was again attacked by his old enemy, the jaundice reappeared, and after a few days of intense suffering, more gall stones were passed per rectum. The epigastric pains became more intense, radiating over the entire abdomen. Again the stools showed the presence of long shreds resembling mucous membrane, and his physician assured him that he was passing portions of the mucous lining of his bowels. Four weeks after the beginning of the attack he noticed his abdomen increasing in size, especially noticeable in the upper portion, in the epigastric region. This enlargement was accompanied by dyspepsia and inability to lie down flat in the bed. Pain invariably followed eating or drinking, and emaciation became quite marked, his weight being reduced from 210 to 138 pounds. Patient did not notice that one kind of food caused

* Read before the San Francisco County Medical Society, March 10, 1903.

more pain than another. The bowels were constipated at times and at others quite free.

Physical examination at the time of his first visit to me was as follows: Inspection showed marked emaciation; skin, a dark brownish, yellow hue; slight icteric suffusion of the conjunctivæ; muscles soft and flabby; no edema of the extremities. Pronounced dyspepsia upon exertion was present. The heart and lungs presented no abnormal physical signs. The abdomen showed a large rounded protuberance in the epigastric region, which pulsated synchronously with abdominal aorta. The enlargement upon palpation was firm and resistant, having the feeling of a very tense cyst, moving slightly with respiration.

The tumor was flat upon percussion, except slight resonance over the left side. The dullness in the middle line and towards the right side was continuous with the liver dullness, but not reaching as far outward as would have been expected if due to enlargement of that organ. Below the tumor tympanitic resonance was present. Examination of the urine was negative, except for a slight trace of albumen. The stools were light gray in color, containing bile and only slight evidence of undigested fat. The examination of the blood showed 60 per cent of hemoglobin and a slight leukocytosis. The patient was seen in consultation by Drs. Stillman, Frisbie and Dozier and a diagnosis of pancreatic cyst was made and operation advised.

Three days later, with the assistance of Drs. Frisbie and Dozier, the abdomen was opened in the median line. A large tumor presented, pushing before it the stomach and transverse colon. The peritoneum of the gastro-colic omentum was torn through and the edges stitched to the tumor. A trocar was thrust into the cyst and four quarts of greenish-colored, muddy fluid evacuated. The cyst also contained a large quantity of dark-colored detritus, with small particles of sandy substance, resembling softened gall stones. The cyst wall was attached to the abdominal peritoneum and drained by two large rubber drainage tubes. The cyst was explored to find if any large pancreatic calculi were present. It was found that the cyst involved the body and tail of the organ; the head was apparently not cystic, and we concluded that the head of the pancreas had a separate duct to convey its secretion to the intestine, and that this explained the absence of undigested fat in the patient's stools. The gall bladder being filled with concretions, a separate opening was made, the gall bladder stitched to the parietal peritoneum and a drainage tube inserted after evacuating the stones. Drainage was very free from both gall bladder and cyst cavity.

The patient made an uninterrupted recovery, the gall bladder ceasing to drain in three weeks and the cyst finally closing about six weeks after the operation. The fluid was proven to be pancreatic fluid. Analysis of the contents of the cyst showed it to be purely a retention cyst of some considerable duration. I am of the opinion that the cyst was due to obstruction of the pancreatic duct by gall stones where it joins the common bile duct.

Interesting features of this case were those connected with the differential diagnosis. Its location limited the diagnosis of tumors of the stomach, lesser mentum, liver, pancreas or great vessels. Tumors of the stomach were excluded by the presence of resonance in front, above and toward the left side. From disease of the liver it was differentiated by the stomach resonance in front of the tumor, by the colon resonance on the right and the palpable edge of the liver and the very limited movement of the growth with respiration. Its central position precluded hydronephrosis, and the expansile pulsation of aneurysm was absent. Positive factors pointing to the pancreas were the colicky pains in the gastric region, following ingestion of food or drink; the immobility of the tumor; the transmitted pulsation; its median position in the abdominal cavity; the evidence of faulty fat digestion, shown by the stools, and the rounded outline of the growth indicating some organ possessing a strong capsule expanded by hydrostatic pressure.

TREATMENT OF HYDROCELE BY EVER- SION OF THE TUNICA VAGINALIS (LONGUET'S METHOD).*

By DUDLEY TAIT, M. D.

SOUND therapy is contingent upon precision in diagnosis. A judicious surgical intervention should be preceded by or lead to a positive knowledge of the pathologic conditions present. Hence, the rapid and well-nigh total abandonment, in all branches of surgery, of blind methods of treatment and their supplplantation by open procedures. Hydrocele was one of the last ramparts to capitulate, leaving perhaps in its trail a few timid camp followers, inert slaves of habit.

In a former communication, presented November 26, 1900, to the California Academy of Medicine, I reviewed the so-called radical methods of treating hydrocele (injection, drainage and partial excision), showing the great frequency of recurrences and the numerous risks incurred in cases thus treated.

Treatment by the injection of irritating fluids with

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the purpose of producing adhesive inflammation between the layers of the serosa is described by English and American authors as a radical method, notwithstanding the large proportion of relapses and the numerous and serious complications following its use. Authors will advocate this plan of treatment which substitutes for a benign affection, a marked, and occasionally uncontrollable, attack of orchitis-epididymitis. It is astounding to what extraordinary, and in many cases inconsistent, limitations the injection method has been carried, and no more conclusive proof is required to show its inefficiency than the interminable list of drugs and other substances which have been employed for this purpose. Nothing more unsurgical and less in accord with modern expeditious and clear technique could be imagined. The severity of total excision will always militate against its adoption as a procedure of choice in the common forms of hydrocele. In certain sclerosed, calcareous, or tuberculous conditions, total excision may prove of inestimable value.

In the present brief note, I desire once more to call attention to the perfected method of everting the tunica vaginalis and present a few data relating to the immediate effects and late results of this mode of treating hydrocele.

In eversion of the tunica vaginalis, the parietal serosa is retained and turned inside out, thus destroying the secreting serous sac. The secreting surface becomes external, *i. e.*, in contact with the loose connective tissue, and the secretion is absorbed by said connective tissue.

The everted serosa retracts rapidly. Eversion of the tunica vaginalis by Longuet's method consists essentially in the turning inside out of the cellulo-fibro-vaginal layers, without decortication or hemostasis; the testicle is transposed.

The operation is performed as follows: A transverse fold is taken up over the hydrocele and cut with the scissors down to the serosa, which is immediately cut in a like manner. Neither the superficial nor the deep incision should exceed 3.5 cm. The testicle is then drawn out, upward and forward, as much as possible, the scrotum being at the same time pulled in the opposite direction by the assistant. If this step is properly carried out, the tunico-vaginalis and overlying fibro-cellular tissues will retract, in the direction of the cord, and turn inside out.

The cut edges of the serosa are now stitched to the connective tissue of the cord, behind and above the testicle, carefully avoiding injury or strangulation of the cord. This stitch, either continuous or purse string, may be rapidly made by using the Reverdin needle. Ordinary catgut No. 1 suffices. The testicle is not replaced in its original bed, which has, in great part, been obliterated through the retraction of the serosa and fibro-cellular layer. Consequently a new bed is made for it. This is done by inserting the two index fingers into the connective tissue at the middle of the inner lip of the incision to a depth of about 3 cm. and then drawing them apart 4 to 5 cm. The testicle is now placed in the resulting

new cavity, internal to and parallel with the old cavity. The testicle is thus slightly twisted on its axis, not being in normal anteversion, but in retroversion. The position of the testicle may be defined as retro-lateral version. (a) The external wound is now closed with three or four metallic sutures, or staples (Michel). The most satisfactory dressing is composed of sterile gauze and a snug fitting suspensory. Under ordinary circumstances, the operation is completed within three or four minutes. Longuet frequently employs but two minutes. The operation is almost bloodless. In performing eversion, several minor points deserve consideration.

First—Local anesthesia will prove adequate in most all cases. It must be remembered, however, that cocaine operations frequently exceed in duration those done under general or spinal anesthesia. Furthermore, infiltration must be done in two stages: first the skin, then the serosa. If the infiltration is not limited to the external surgical layer of the scrotum (skin and dartos), the operator will, upon cutting down, be confused by a series of bullæ distending the connective tissue and obscuring the field of operation.

Second—A certain amount of training is required to avoid causing pain while holding the testicle. An excellent plan is to allow the testis to rest on the flexor surface of the first and second fingers, the cord passing between them.

Third—The making of a new cavity in the connective tissue is accomplished by two or three rapid strokes of the fingers; no hemorrhage occurs.

Fourth—In large hydroceles, partial excision of the serosa was at first advised; subsequent experience showed this to be absolutely unnecessary; the tunica always retracts within a few days.

Fifth—The Michel metallic sutures or staples are especially useful upon the scrotum. I generally remove them on the third day.

It is especially in its immediate effects that eversion of the tunica-vaginalis differs from all other radical methods of treatment. The local reaction is almost nil; a slight edema of the dependent portion of the scrotum occurs in about 50 per cent of cases, and is due partly to operative traumatism, partly to the infiltration of the loose cellular tissue by the secretion of the serosa. This condition, however, rapidly ceases. Within a few hours after the operation, palpation does not elicit more than the usual testicular sensitiveness. Consequently, the patient may resume work almost immediately. Longuet treats hydrocele cases in the ambulatory clinic. The

(a) Six weeks prior to Longuet's publication, I devised a simpler plan of making a new bed for the testicle, by working with the index fingers in the connective tissue, immediately behind and beneath the sutured serosa, on the median line, at the site of the former bed. In this manner the testicle is less dislocated than in Longuet's method.

patient, fitted with a snug suspensory, habitually walked away from the clinic one or two hours after the operation, returning on the fourth or fifth day, when he is discharged.

Eversion of the tunica vaginalis is singularly free from complications. In July, 1901, Longuet stated in a personal interview that after careful observation, extending over a period of two years, he had failed to find either atrophy or the slightest functional disturbance of the testicle. Not a single relapse was noted by him in his large number of cases.

The testicle may, in a small percentage of cases, remain partially immobilized during a few weeks; but, in the majority of instances, it is found freely movable as early as the sixth week. Several months subsequent to operation, palpation generally shows the retracted serosa at the upper pole of the testis; it then resembles in consistence, and partly in shape, a sclerosed epididymis. This fact was well illustrated in one of my patients, who was examined by a physician two months after a combined total epididymectomy and eversion of tunica, and informed of the existence of a tuberculous nodule involving the globus major of the epididymis.

Indications: Longuet's method will prove of signal service, first, in the majority of the numerous varieties of hydrocele and cysts of the cord; second, in cases where the surgeon desires to explore the tunica, testis or epididymis; third, in case of hernia with hydrocele; fourth, in conjunction with various operative procedures upon the testis or veins of the cord, and fifth, in acute vaginalitis due to gonorrhreal epididymitis.

Unlike total excision, eversion by Longuet's method does not require any special surgical training, and should prove acceptable to the most pusillanimous patient.

I have used eversion in eight cases, three of which were reported in the communication previously alluded to. The remaining five cases concern patients of various ages; fourteen years being the youngest, sixty-eight the oldest. In two cases, the sac contained about 400 cc. In two other cases, eversion was done in conjunction with epididymectomy and resection of the anterior group of varicose veins. No complications were noted in any case. Two patients were permitted to leave the city forty-eight hours after the operation, and required no further medical attendance, the metallic sutures having been removed. All of these cases have been followed and not the slightest ill-effect or sign of recurrence noted.

Conclusions: Compared with other radical methods, eversion by Longuet's methods excels in simplicity, rapidity and safety. Its immediate

effects are seldom sufficiently marked to confine the patient to bed. The late results are perfect.

Historical data: Controversy regarding questions of priority is generally uninteresting and sterile of positive results. Nevertheless, the prevailing complicated mode of calling operative procedures by their authors' names calls for reasonable accuracy in bibliographical research. The operation of eversion of the tunica vaginalis is known and described in several German and Eastern journals as "Winkleman's operation." This author's first publication appeared in the *Centralblatt f. Chirurgie*, November 5, 1898, *i. e.* three years after both Doyen and Jaboulay had published their extensive observations regarding the same procedure, and one year after the question had been discussed at the French Annual Surgical Congress. Winkleman further displays his disregard for bibliographic research by attributing to Von Bergmann the operation of total excision of the tunica vaginalis, which was performed by Celsus, in the first century, and subsequently by Albucassis, Fallopius, Dupuytren and Bardeleben.

FINAL RESULT OF A LORENZ OPERATION FOR CONGENITAL LUXATION OF THE HIP.

(Continued from page 134.)

limp nor lordosis, and the patient can stand erect on the luxated leg without sagging of the pelvis.

Dr. Rixford said that this was the second case in which he had done the Lorenz operation of bloodless reposition, and that in the first case plaster spica was worn for three months only. The operation was done in November, 1899, and in March, 1901, a year and a half afterwards, Dr. Bessak of Forbestown was kind enough to examine the child and wrote that there was no shortening; that the child walked without limp and that he could not have determined by her gait which limb had been luxated.

Affiliation of county societies continues. Since the last number of the JOURNAL was issued the following named societies have become members of the State Society: Santa Barbara, Placer, San Joaquin, San Diego, Marin, Humboldt, Orange and Alameda.

Calcium Salts for Nervous Diseases.—Jacques Loeb of the State University Department of Biology claims to have discovered that muscular and nervous diseases, such as St. Vitus' dance, paralysis agitans, locomotor ataxia, and insomnia, can be cured by the administration of calcium salts. His conclusion is that the presence of calcium salts in the muscles prevents their twitching, and that their absence leads to the various nervous disturbances mentioned; hence the administration of calcium salts as the remedial measure.

CONSERVATISM IN GYNECOLOGICAL SURGERY.*

By W. F. B. WAKEFIELD, M. D.
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DESIRING to know the general trend of surgical opinion regarding this important subject, I have written to about one hundred of the leading gynecologists of this country, and have been favored with replies from a great many of them, for the courtesy of which I take this opportunity to thank them. The somewhat rambling remarks which follow will be based on the statistics and information thus gleaned, as well as on the material collected from a mass of journalistic and text-book literature, added to a personal experience with a considerable number of cases.

Since William M. Polk, a decade and a half ago, directed the attention of gynecological surgeons to the possibility of conservative procedures in pelvic surgery, the subject has been more or less constantly under discussion; and the persistency of treatment which has been accorded this subject is evidence of its importance.

A rational conservatism must form the cornerstone of all high-class surgery; an intelligent attempt to save structure and function, whenever possible, is demanded of every conscientious surgeon. Nature and experience have thrown around conservative effort more or less well defined limitations; nevertheless there remains for it a wide scope of usefulness, and the failure to apply it, where practicable, is little short of crime. The senselessly destructive work which may constantly be seen in our operating rooms is, in the highest degree, pernicious, and lacks all the elements of good surgery.

Four things stand out prominently as having militated against a more general application of conservative procedures in this branch of surgery, viz:

1. Adherence to traditional methods of operating.
2. The greater technical ease attending radical work.
3. The fear of secondary operations.
4. Misdirected effort along conservative lines.

ADHERENCE TO TRADITIONAL METHODS OF OPERATING.

Past training, as well as observation of the practice of many surgeons at the present time, has induced, in the minds of many, the belief that so-called "cystic" and "cirrhotic" ovaries are diseased beyond hope of repair; that they produce all kinds of extravagant symptoms; that they menace the future welfare of the patient, and that they should be removed. As Frank R. Oastler (1) aptly remarks, in a splendid article on conservatism read before the Roosevelt Hospital

Alumni Association a year ago, "How many times a year do we see so-called 'cystic ovaries' snatched out without a thought and displayed in triumph before a more or less admiring audience!" and many of those constituting the "admiring audience" go and do likewise, backed by much precedence to establish their right in so doing. Further, Howard Kelly (2) says:

"Cirrhosis of the ovary" is still another much abused term, used even yet to describe the product of a chronic inflammation of the ovary which does not exist as a pathological entity. The so-called cirrhotic ovaries are simply contracted hard bodies, for the most part the result of a protracted malnutrition of the organ, often due to displacement and surrounding adhesions binding it down and cutting off its circulation.

THE GREATER TECHNICAL EASE ATTENDING RADICAL WORK.

Excepting a simple exploratory incision, and possibly ventro-suspension of the uterus, there is no more simple procedure in abdominal work than an uncomplicated salpingo-oophorectomy as it is usually done by pulling the tube and ovary up together and transfixing and tying them off in a bunch. On the other hand, the separation of diseased tissue from its surroundings—as in resection of ovarian cysts or cystic portions of the ovary, stitching up the necessary rent made in that organ; or in resection or amputation of a portion of diseased tube, uniting the serous and mucous coats of same—entails considerable patient, plastic work. And, oftentimes, I am sorry to say, surgeons perform a salpingo-oophorectomy in preference to doing conservative work because of its greater ease of performance, forgetting, alike, the injustice they are doing their patient, and the bad example they are setting to onlookers.

THE FEAR OF SECONDARY OPERATIONS.

Experience has not proven the fear of secondary operations well founded, as the necessity for a secondary operation occurs but seldom when good judgment is used in the original work. Moreover, experience shows that the occasional necessity for a secondary operation does not entail increased mortality risk. These facts being established, where is the vindication for unsexing nineteen women in order that one be saved the inconvenience of a secondary operation? Polk (3) places the necessity for secondary operations at 5 per cent. Hunter Robb (4) in a series of one hundred conservative operations has had to perform only one secondary operation. In my own cases I have only had to do one secondary operation, and that a case in which I drained an acute pelvic abscess *per vaginam* and subsequently had to do a laparotomy to remove the diseased tube.

MISDIRECTED EFFORT ALONG CONSERVATIVE LINES.

Oftentimes surgeons have tried conservative work with disappointing results and then have an-

athematized the whole procedure as irrational, thereby deterring others from making the attempt. The trouble is sometimes due to our own lack of proper discrimination in the selection of our cases, and we blame our failures to the conservatism rather than to our abuse or wrong use of same. Perhaps we have had the misfortune to hit upon one or two consecutive cases in which there dwelt a slumbering streptococcal infection, or, perchance, one or two of our cases become infected with gonorrhea subsequent to our operation and come to us a few months later with the remaining tube diseased and we unjustly blame ourselves for our conservative work. These are simply illustrative causes for failure. Results are often influenced by many things over which we have no control, and for the occurrence of which we have no right to blame ourselves. Conservative work done on selected private cases must necessarily yield better results than the same work done on the cases that come to our charity hospitals.

I will briefly direct your attention to practical conservative work under four heads:

1. Vaginal drainage for pelvic abscesses, septic edema and hematocoele.
2. Conservative operations on the uterus.
3. Conservative operations on the ovaries.
4. Conservative operations on the tubes.

Vaginal Drainage—A very few years ago gynecologists were struggling to obtain proper recognition for vaginal drainage. To-day its place in pelvic surgery is well established. Oftentimes its benefits are simply palliative, rendering safe the removal of an infected focus by laparotomy later. At other times it confers permanent symptomatic cure. Kelly (5) in reporting sixty-five cases so treated by him up to 1896 announces thirty-two cures. Its most common use is in draining pelvic abscesses, but oftentimes we find it applicable to other conditions. I have more than once seen a dense cellulitis, in which all the pelvic structures were swollen and edematous, yield promptly and permanently to vaginal incision and drainage. Last year F. L. Adams (6) reported to us four cases of pelvic hematocoele, the result of ruptured tubal pregnancy, successfully treated by vaginal incision, irrigation and drainage. Our literature is full of illustrative cases, but it is not within the scope of this paper to more than suggest the applicability of the different procedures under discussion.

Conservative Operations on the Uterus.—This brings us to the subject of myomectomy. Gynecological surgeons seem to be almost a unit in their advocacy of myomectomy as the operation of choice, and with improved technique and greater experience, from year to year, the scope

of applicability increases. The contra-indications are:

1. Conglomerate growths whose relationship with the uterus cannot be defined.
2. The presence of pelvic inflammatory disease.
3. A condition of grave anemia in which the sole considerations are to prevent present and future hemorrhage and get the patient off the operating table as soon as possible.
4. Grave organic disease of vital viscera the presence of which is likely to impair constructive metamorphosis.
5. A tumor so large as to make the resultant wound in the uterus difficult of closure, and the involution of the thinned uterine walls problematical; *e. g.*, tumors extending above the umbilicus.
6. Approaching menopause.

T. S. Cullen (7) emphasizes the inadvisability of attempting myomectomy in the presence of inflammatory disease of the adnexa. He says:

If you have diseased tubes under no circumstances attempt a myomectomy. In one case, I remember to my sorrow, I opened up both tubes. They contained no pus, but there had been an old inflammatory process. I wanted to save the tubes and ovaries and at the same time remove the myoma from the body of the uterus. This patient became septic and although we operated four times in attempting to relieve her, she died at the end of a month. I have made it a definite rule never to do a myomectomy where the tubes are not normal, but given normal tubes and ovaries a myoma may be removed, no matter how large, and even if it involves the uterine cavity to a considerable extent. I have found from the examination of many cases that the uterine mucosa is usually normal, provided we have normal tubes and ovaries.

Guy L. Hunner (8), who is associated with Howard Kelly in his work at Johns Hopkins Hospital, has kindly reported to me two hundred and thirty-seven cases of myomectomy. Of these, one hundred and eighty-four were abdominal, with three deaths, and fifty-three were vaginal, with three deaths. This gives in the abdominal work a mortality of 1.63 per cent, a remarkably low mortality record for any kind of capital work.

Without enlarging on the relative merits and demerits of myomectomy in comparison with hysteromyomectomy or pan-hysteromyomectomy, I think it safe to say that, paying attention to the exceptions above noted, myomectomy has been well established as the only treatment for uterine myomata.

Conservative Operations on the Ovaries.—This embraces the releasing of adhesions, the enucleation of superficial Graafian cysts and the resection of the organ for cysts of the corpus luteum, small dermoids, small hematoma, small fibroids, etc. Even fairly large ovarian cystoma will often show at their base healthy ovarian stroma which may be saved with unimpaired functional

utility. The largest cyst which I have personally operated upon with conservation of the ovary was the size of a large orange, but much larger cysts may oftentimes be found that have not caused complete destruction of the ovary. Whenever any healthy ovarian tissue can be found at the base of the cyst it should be saved. The best guide in searching for such tissue is the utero-ovarian ligament.

The general consensus of opinion is in favor of ovarian conservatism under almost all conditions. With two or three exceptions all the replies I received to my letters of inquiry were unanimously in favor of conserving the ovaries, even if only a small piece of ovarian tissue could be saved. There are very few conditions which justify sacrifice of the ovaries unless the menopause is so close at hand as to make conservative effort useless; and even then it is questionable if the woman should be robbed of the benefit of the ovarian secretion on the animal economy, for, that the ovary is a secreting gland, analogous to the thyroid, the products of which have a general anabolic influence, has been pretty well demonstrated, and we have no means of knowing that this secretion ceases with the advent of the climacteric, in fact the bulk of clinical evidence is rather to the contrary. The only conditions which justify ovarian sacrifice are:

1. Large cysts, abscesses, hematoma or fibroid tumors which have entirely destroyed all healthy ovarian stroma.
2. The presence of malignant disease.
3. The presence of tuberculosis.

Even in the presence of limited malignant disease of one ovary, in a young girl, *e. g.*, a superficial papilloma, Kelly (9) thinks the other ovary might be conserved and carefully watched and subsequently removed should it show evidence of disease.

One thing must be kept in mind in this and similar cases where one ovary has been preserved and the other removed, and that is that the ovary left behind will usually take on a physiological hypertrophy to enable it to do double duty, and this must not be misconstrued as evidence that it is becoming diseased. I have more than once had men, whom I have induced to leave the adnexa of one side where disease had made it necessary to remove the adnexa of the other side, come to me a couple of months later and express regret at their conservatism because they have found that the ovary left behind was about twice as large as it had previously been. Time, however, proved this hypertrophy to be the only outcome of the conservative effort.

Conservative Operations on the Tubes.—Here is where the opinions of surgeons differ. Some men who believe in myomectomy and conservatism of the ovaries will not risk conservative work

on diseased tubes; other men perform plastic work on the tubes as a routine practice with good results. It is hard to reconcile these divergent opinions. My own experience with conservative work on the tubes, has, so far, been highly satisfactory. There is no doubt that much greater judgment and forethought is required to practice a wise conservatism on the tubes than is necessary in conservative work on the ovaries. This is largely owing to the septic influences that so often surround tubal disease. Disappointing results often follow conservative work on the tubes. We should not, however, be deterred by this fact from practicing tubal conservatism, but we should be warned by the bad results that sometimes occur of the necessity for most careful consideration of the factors that enter into this surgical problem. We would have fewer unfortunate sequelæ if we could foresee the exact conditions of a given case before operating, and could carefully plan our line of action in treating it. Our mental preparation for this work is often deficient, and lack of preconceived plan is often responsible for our errors of judgment. We rely too much on our ability to cope with these conditions in the operating-room, and do not operate on a sufficient number of cases in our study. There, we can operate on all kinds of conceivable cases and plan our methods of procedure with deliberation, and the plans thus made can be brought into instant use when we are confronted with the emergency on the operating table.

The following are the most common conservative operations that have been practiced upon the tubes:

1. The release of adherent tubes.
2. The opening or resection of closed tubes.
3. The emptying, cleansing, and sterilization of inflamed tubes.
4. The amputation of diseased tubes.
5. The excision of a diseased or strictured portion of tube, followed by tubal anastomosis. (Salpingosalpingostomy.)
6. The drainage of tubal abscesses.
7. The preservation of the tube in extra-uterine pregnancy.
8. The dissection of small cysts or growths from the surface of the tube.

F. B. Carpenter (10), in discussing the subject of tubal conservation, says:

There is but one point in this whole argument upon which I would lay special stress, *viz.*: don't risk much conservatism on recently infected tubes. It is dangerous business. I have recently seen a fatal termination as the result of an effort to save the occluded tubes by splitting them up, cleaning them out thoroughly and stitching them open. The operation was carefully and well done, the peritoneum well protected and apparently not soiled. The pus developed by the general and fatal peritonitis proved to be a beautiful culture of the gonococcus.

I had a very anxious time with a similar case: Miss F. consulted me for pelvic pain. I discovered that she had just recovered from an acute

attack of pelvic peritonitis. Examination under chloroform disclosed a boggy mass at the fimbriated extremity of each tube. Operation showed double pyosalpinx with enlarged clubbed masses on each tube. The tubes were freed of adhesions and the enlarged part amputated, leaving an inch or more of macroscopically normal tube at the uterine end. Two or three fine catgut sutures united the peritoneal and mucous coats. Three days after the operation acute peritonitis developed, and for two or three days the patient's life was despaired of. The vital functions got so low as to make recovery seem almost impossible. Nothing having been retained by either stomach or rectum for many hours, I decided to nourish the patient by hypodermoclysis, and, to the normal salt solution which was being put under the breast every three hours, I added an ounce of liquid peptonoids. From the time I commenced doing this the patient improved, and was soon out of danger. Whether this improvement would have occurred anyway, or whether the use of this stimulating nourishment whipped up the flagging vitality and turned the tide in the patient's favor, I cannot say. I shall try it again when confronted by a similar emergency.

In contradistinction to these two cases I would like to mention two or three others:

Mrs. W. came to me with a history of a recent attack of peritonitis. Examination revealed a large mass on left side, smaller mass on right. Operation showed double pyosalpinx and a cyst on the left ovary the size of an orange. The healthy ovarian stroma found at the bottom of the cyst was separated from the cyst wall and the ovary stitched up. The diseased portions of both tubes were amputated. Patient made an uninterrupted recovery and has remained in excellent health.

Was called in to see Miss F., who was just recovering from an acute attack of peritonitis. Found a large mass on the left side. Diagnosis, pelvic abscess. Recommended vaginal drainage. After going through vaginal wall I opened into a cyst, went on through cavity of cyst and opened an abscess. Both abscess and cyst were drained, and patient made a good immediate recovery. Three weeks after the operation no trace of any trouble could be felt. A few weeks later, however, pelvic discomfort returned, and a good-sized mass could be felt. Laparotomy was performed. There was a large, fluctuating, conglomerate mass about the size of an orange on the left side. This mass was entirely removed and was found on after-study to consist of a large convoluted tube, underneath which, in the folds of the broad ligament, was an abscess cavity surmounting a cyst of the ovary. The tube and ovary of the other side, being seemingly healthy, I conserved them. Recovery unusually good.

Mrs. S. had had an attack of acute peritonitis some months previous. She was suffering with very severe pelvic pain, intermittent attacks of vertigo, an excruciating constant neuralgia in the right supraorbital region, loss of vision in the right eye and dimness of vision in the left. Examination showed an inflammatory mass on both sides. Laparotomy revealed both tubes to be characteristically en-

larged, contorted, and clubbed, and embedded in an immense mass of inflammatory exudate. The existing adhesions were frightful, worse on the right side than on the left. The ovaries were enlarged and cystic. The right tube was completely removed; the outer part of the left tube was amputated, a stump about an inch long being allowed to remain. Both ovaries were resected. Recovery perfect. The remote results of the pelvic inflammation in this case are interesting, the neuralgia and loss of vision being on the side where the densest pelvic adhesions existed. The neuralgia was at once relieved by the operation, and the sight returned gradually to the eye.

From these illustrative cases, and many others that might be mentioned, we may draw a few practical conclusions:

1. We should be very cautious about applying conservatism to cases known to have been recently infected.

2. The advent of an acute attack of localized peritonitis in a patient suffering from chronic infection, in other words, an acute "lighting up" of an old infection, does not contra-indicate conservatism.

3. The presence of acute infection in one tube, which it is deemed advisable to remove, does not call for removal of the other tube also, unless it is similarly diseased.

4. The longer the patient has been infected the more likelihood there is for the pus or inflammatory products in the tube to be sterile, and the more safely may we consider conservatism.

5. Of the two procedures, resection of the tube and amputation of the tube, the latter is the safer procedure, as we do not then leave behind a lot of thickened, inflamed, and more or less infected tissue to menace our results, and that a stump of a tube is capable of carrying an ovum to the uterus has been demonstrated.

6. Just how far we may go, and where we must stop, in our endeavor to save the tubes and perpetuate the procreative function, has not yet been demonstrated.

I had hoped to be able to take up some of the remote results of conservative work, as I have collected some interesting cases of pregnancy following conservative operations on the tubes, but time will not permit. In this regard I cannot refrain from directing your attention to an article on this subject to be found in the *Gynecological Transactions* for 1900, by W. L. Burrage of Boston, and a later article by the same author, to be found in the *New York Medical News* of April 13, 1901.

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POTT'S DISEASE OF THE SPINE IN CHILDREN: ITS COMPLICATIONS.*

By JAMES H. TEBBETTS, M. D., Hollister.

THE PRINCIPAL and most important complication of Pott's disease is the tuberculous abscess, and will demand all our skill and attention. It is also the most frequent complication that may occur, although we may safely remark that, with thoroughly efficient and early treatment of the original disease, we would surely find fewer abscesses. We may add, however, that it is not an infallible evidence of incomplete or improper treatment, and one cannot always prevent the formation of an abscess. It is in fact quite remarkable that it does not occur more frequently, and produce more serious results.

When this condition occurs, we do not have the true abscess formation, as it contains no pus, primarily, and it is better to describe it under the name of "tuberculous abscess," containing tuberculous fluid, and, in addition, serum leukocytes, casein, and fibrin, more or less cheesy necrotic tissue, with frequently microscopic bone tissue, forming a sediment on standing. This fluid is sterile, unless secondary infection has occurred, when pus is then present, green or yellow, and of uniform consistency.

The abscess may be produced by certain conditions, which cannot always be determined in every case. We notice, first, the lessened power of resistance of the patient to the tuberculous invasion. This may be both general and local. There may be a history of a previous injury re-

autopsy. They are present in over 25 per cent of all cases of Pott's disease, in about 8 per cent of the cervical cases, 20 per cent of the dorsal, 72 per cent of the lumbar, and at least 50 per cent where the disease is in the lower spine. Here the vertebral bodies are larger, and offer less resistance than do those of the higher spine to the progress of the disease.

The abscess may remain stationary for a considerable time after its discovery, and should there be a rapid and notable increase in its size, we may expect that some outside infection has been received, or that rapid destructive changes are occurring. The position and size of an abscess may produce pain and discomfort, and attract in this way the attention of the patient. Pain and temperature also indicate that the abscess is nearing the surface, and always in the line of least resistance, aided by both gravity and pressure. The course of an abscess below the diaphragm is very interesting. It may enter the sheath of the psoas muscle, appearing externally upon the inner thigh as a psoas abscess. It may enter the sheath of the quadratus lumborum and appear between the twelfth rib and the crest of the ilium as a lumbar abscess. It is called an iliac abscess when it passes downward upon the iliac fascia, sometimes appearing at the outer end of Poupart's ligament. When it passes through the greater sciatic foramen, a gluteal abscess results.

The table of Treves shows the origin, location and point of appearance of these spinal tuberculous abscesses:

Variety.	Course.	Exit.
Cervical.....	(a) Anterior.....	Into the posterior wall of the pharynx.
	(b) Burrow beneath the deep fascia, into the thorax, as a mediastinal abscess.....	Into the trachea, cesophagus, or through an intercostal space.
	(c) Laterally, between longus colli and scaleni muscles.....	Posteriorly, to the sterno-mastoid.
Dorsal.....	(a) Burrow posteriorly.....	On the back or side, a short distance from the spine.
	(b) Within the psoas sheath.....	Beneath Poupart's ligament, in Scarpa's triangle.
	(a) Enter psoas sheath.....	As psoas abscess.
Lumbar.....	(b) Burrow between the fasciae of the quadratus lumborum and abdominal muscles, through the internal oblique	Posteriorly beneath the external oblique, and latissimus dorsi, at the outer border of the erector spinae muscle.
	(c) Gravitate beneath the internal iliac muscles, over the posterior brim of the pelvis, perforating the great sciatic foramen	As a gluteal abscess.
	(d) May be directed to the iliac region, along the aorta, and external iliac arteries.....	As a gluteal abscess.

ceived. Pyogenic infection is not required to produce the abscess, and, as above stated, many of them are sterile, or contain tubercle bacilli only. Pressure and irritation are potent factors, both in producing an abscess and increasing its size.

An abscess may escape observation during the patient's lifetime, and then be discovered at the

They may develop unilaterally or bilaterally, may appear in the mouth, thorax, in the posterior mediastinum, or passing downward therefrom, through the aortic opening in the diaphragm, form an iliac abscess. A retropharyngeal abscess may be caused by tuberculous disease in the occipitocervical region, the fluid passing between the recti

* Read before the Medical Society of the State of California at the annual meeting held in San Francisco, April 14 to 17, 1902.

muscles. It may also dissect a path around the skull, or even enter the foramen magnum.

From the middle cervical region an abscess may dissect a channel between the scaleni and the longus colli, thence between the trapezius and the sterno mastoid, reaching the surface at the anterior border of the latter. In rare instances an abscess has entered the spinal canal, pleural cavity, lungs and intestines. The psoas abscess is undoubtedly of most frequent occurrence, and is seldom seen in children, except in Pott's disease, and is nearly an infallible sign of dorsal or lumbar tuberculous vertebral disease. They may open into the hip joint, giving rise to hip joint disease, or into the inguinal canal, simulating hernia.

Leukocytosis is found in some cases of abscess, although not invariably. Fever is not a constant symptom, but where a patient has had considerable fever it often proves a forerunner of an abscess, which, however, may not reach the surface for several weeks or even months. Hectic fever, together with other septic symptoms, is not usually present unless the abscess cavity has opened and infection occurred, but slight temperature is often observed without such infection.

An abscess in the lung produces less disturbance than one would expect, and the only physical signs found may be those of a chronic or acute localized pneumonia. The abscess may rupture into a bronchus and the fluid be coughed up, followed by more or less collapse, according to the size of the abscess.

A sudden discharge of pus is indicative of the rupture of an abscess into the pharynx, esophagus, intestine, or bladder. It is not unusual for an abscess to become stationary and absorption of its contents to follow.

An abscess is of serious import to the patient by causing delay in our mechanical treatment. Deformity is often increased by the abscess formation, and death may occur from asthenia and secondary surface infection. Spontaneous openings may discharge for years, unless very thoroughly treated, and with good drainage, and even then sinuses, deep and tortuous, may remain unhealed. The rupture of abscess fluid into the peritoneal cavity is usually fatal, and invariably so in case it should, in its course, communicate with a large blood vessel. As soon as recognized, the abscess fluid should be evacuated, followed by the most free and careful drainage, under perfect aseptic surroundings and precautions.

The retropharyngeal abscess may be opened from the mouth, if time is urgent, but it is better surgery to operate by external incision along the posterior border of the sterno-mastoid, in its upper third, dissecting carefully; then open and

drain thoroughly, and the opportunity for this free drainage gives this method its advantage.

An abscess of the thorax should be treated by rib resection and drainage. In those of the lower spine, treat by free incision, gently remove all possible of the abscess membrane with a small gauze sponge and pressure, flush well with salt solution and secure free drainage, with counter openings, if required. The patient should live in the open air and sunshine, and receive most careful mechanical treatment, as indicated.

It is possible in some cases to aspirate these abscesses, repeating as often as the cavity refills, and following with a pressure compress. Where the abscess is still uninjected, there is good authority for the treatment by injection of sterilized emulsion of iodoform and glycerin, in 10 to 20 per cent, using 3jj to 3iv, once in one to two weeks, either with or without previous evacuation of the contents. The toleration of the patient for iodoform should be watched, and with this in mind, and with aseptic precautions, no harm has resulted. Iodoform has no value where the abscess cavity has become infected, nor does it have much effect upon the general tuberculous process. A favorable result may be expected where the abscess contents are transformed into a viscid fluid, and from one to six injections are usually sufficient to produce this effect in susceptible cases.

While not so frequently occurring as abscess, as a complication in Pott's disease, paralysis is seen in from 5½ to 13.7 per cent of all cases, according to different observers. It is not as serious a complication, however, and, like abscess, may and does occur in some cases where early and approved methods of treatment are employed. The principal cause of paralysis is pressure, from some source, somewhere upon the cord or nerves. There may be swelling, and hypertrophy of the softer tissues within the bony canal, thickening of the dura, and pachymeningitis resulting from extension of the tuberculous process backward through the posterior ligaments, and invasion of the epidural space. There may be pressure from a necrosed fragment, or from a neighboring abscess.

Paralysis develops more often in cases where kyphosis is moderate or slight, and where the disease is located in the upper and middle dorsal region, as here the spinal canal is smaller, and it is more difficult to secure and maintain proper and efficient fixation treatment. It is said that 15 per cent of all these cases may show more or less paralysis symptoms during the progress of cure. An early symptom of paralysis is an attack of herpes zoster along the course of the nerve first sustaining pressure. Paralysis has been observed before the deformity was apparent,

but it usually develops from six months to one and a half years after the tuberculous process has begun.

The shambling gait and manner in which the patient will drag his leg, will usually first attract attention, and there will also be noticed undue muscular fatigue and weariness on slight exertion, and there soon appears the inability to stand erect. The exaggerated reflexes are shown upon examination of patella and ankle, and still later on, muscular rigidity develops. Motor paralysis precedes the sensory, and sensation may remain after loss of motion, as the anterolateral columns receive the most pressure, but if the case continues to progress unfavorably, there will be more or less sensory paralysis.

It is very necessary to distinguish true paralysis from cases that may simulate this condition, in those patients who are simply bedridden, but are not paralyzed, and whose reflexes are normal. They may be asthenic, or have contraction of the psoas muscle and may be discouraged and believe that they cannot walk. Both legs of a patient may become equally affected at the same time, or one may precede, and the same may be noticed in convalescence.

In the early stage, where weakness is about the only symptom, spastic rigidity of the limbs may be produced by moving them, or by stimulating the reflexes. Sensation, in the mild cases, although not entirely lost, is nevertheless impaired, and so, also, is control of the bladder, while that of the sphincter ani is but slightly affected. Pain is rare in paralysis, and, if present, is but the usual characteristic pain of the disease. The extent of the paralysis naturally depends greatly upon the location of the cord pressure.

In convalescence the first favorable indication is lessening of the rigidity, with slight return of motion to the toes and feet, with more or less rapid improvement thereafter. The exaggerated reflexes may persist for quite a long period after recovery, and many patients show them who were not paralyzed.

Prognosis is, on the whole, fairly good in these cases of paralysis, and recovery may safely be anticipated in 70 per cent, and may occur early if proper treatment has been instituted. It is usually complete without subsequent traces. The prognosis depends greatly, of course, upon the extent and amount of cord pressure, as shown by the degree of paralysis, and recovery will be slower and more doubtful in those cases where the sphincters are much involved, but may eventually occur even in the worst and apparently most hopeless cases.

There may be a recurrence of the symptoms after an apparent recovery, and this has been reported from one to seven times. These relapses may be possible where treatment has been either neglected altogether, or immobilization of the spine has been too brief.

The treatment of paralysis is mechanical, and thoroughly efficient treatment of the disease in general fixation of the spine as perfectly as possible. This needs particular emphasis, as there is sometimes an effort made to have the physician relax the immobilization treatment at this very time when greatest care and vigilance are imperatively indicated. During convalescence, massage and manipulation of the limbs should be faithfully employed, but these methods are contra-indicated in the early period, being then liable to overstimulate the nerve centers.

Iodid of potassium may be administered in small doses, gradually increasing to a considerable dosage, then slowly decreasing to the original amount. The operation of laminectomy is not now recommended except in rare and selected cases, and is seldom indicated.

THE TREATMENT OF SCLEROSIS OF THE MIDDLE EAR.*

By M. W. FREDRICK, M. D., San Francisco.

BY SCLEROSIS of the middle ear I mean that condition in which the mucous membrane lining the cavity has become highly atrophic, the ossicles rigid, and the bone-conduction, in many cases, somewhat lowered from disuse. I think it worth while to define the term, as many writers use it rather loosely, including those conditions which are really the initiatory stages of sclerosis, such as hypertrophic otitis media chronica.

The many methods proposed for treating sclerosis of the middle ear, most of which were brought out with a great flourish of trumpets, only to sink into oblivion soon after, prove that we are yet a great way from having found a really good method of relieving this most distressing condition. The great activity in this direction, however, promises that before long we may arrive at some method which will be of permanent value.

Not so many years ago the sufferers with sclerosis were refused all treatment by honest aurists, and were advised to resign themselves to their condition. To-day, however, those in whom the bone-conduction is still good can have the satisfaction of trying some of the methods which have proven themselves efficacious in similar cases. Where the bone, or tissue-perception, is

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greatly diminished it would be useless to try anything until we have found a remedy for atrophy of the special nerves, which, in the light of our present anatomical and pathological knowledge, seems highly improbable.

The best remedy for sclerosis lies, of course, in the prophylaxis. Educating people, especially parents, to attend to nasal and pharyngeal catarrhs, nasal obstruction, adenoid growths of the pharyngeal vault, the complete cure of acute cases of otitis media, would avert the majority of cases of sclerosis. Unfortunately the underrating of the importance of the conditions just mentioned, together with the painlessness and the insidious progress of sclerosis, keeps most patients in ignorance of the gravity of his malady until it begins to seriously interfere with his relations with the world, or the tinnitus becomes so annoying that it can not further be ignored. Then the aurist is asked to cure a condition which has existed for many years, when the deviation from the normal is so great that a return to anything like normal conditions seems entirely out of the question. It is now a question of relief only, and in that direction a great deal of work has been done in the last decade by conscientious workers.

One very promising means of prophylaxis of recent mention is the method of electrolytic dilation of strictures of the Eustachian tube, about which Duell, Newman, Harris, Kenefick and others have written a good deal of late. The method has been tried by several men in this city who report results quite as satisfactory as those of the authors mentioned. The short time that the method has been in use prevents one from expressing an opinion as to its permanent value. What value the method can have in old cases of sclerosis, with wide, dry Eustachian tubes, is beyond my comprehension; nor can I, *a priori*, understand how a severe case of tinnitus can be relieved by several applications of the electric bougie in the cases of sclerosis already referred to.

The simple Politzerization has already become obsolete, as has also the injection of fluids and oils through the Eustachian catheter. I have personally experimented with a large number of fluids and oils without deriving the slightest benefit from them. In England the injection of warm solutions of potassium iodid was long in vogue, and in this country other preparations of iodid have been extensively used. I tried for a considerable period of time soziodolic acid, which was largely advertised in the German journals as an absorbent of connective tissue. I used it both by instillation into the external meatus and by forcing it through the Eustachian catheter. The most I ever got from it was severe irritations of the middle and outer ear. What seemed of most good in my hands was a solution of camphor and

menthol in albolene, but even that did not seem to me of high value.

As to internal medication for sclerosis the drugs vaunted by their proponents have generally proved worthless in the hands of others. Thyroid extract was recommended, especially in young people, but has shown itself worthless except in the case of subjects of myxedema. Wilde and Gruber spoke very highly of tincture of arnica in 15-drop doses, and of muriate of ammonia. In cases with a neurotic basis, the hydrobromic acid is useful in diminishing tinnitus.

The treatment with pilocarpin injected hypodermically I consider a waste of time and energy in these cases, as the improvement, just as in the case of optic atrophy treated with strychnin injections, is merely temporary, and only adds to the discomfort of the patient. The injection of pepsin from the stomach of a dog into the middle ear, like many other measures proposed for the relief of this condition, is so fanciful as to seem like the outcome of despair.

Of course the general condition will need attending to in many cases, and there we shall have good use for drugs and other measures to remedy the anemia, syphilis, gout, rheumatism, etc., which are often causative factors of sclerosis. I want to say that I think aurists are often remiss in seeking the origin of the trouble. To them the local symptoms were all-sufficient, and their horizon seems bounded by the aural symptoms. The hygiene of the patient will need looking after, and often a change of employment will be advisable. The latter is often a hard thing for the patient, but in the case of young people it should be insisted on, when the occupation is in a noisy factory, or in a trade which calls for frequent wetting of hands and feet, and exposure to draughts. One thing which our San Francisco patients need to be cautioned against is the habit of riding on dummies of the street cars. Of course, excesses in tobacco and alcohol are strictly to be forbidden, and they should be warned when swimming to pack their ears with lambswool or some similar non-absorbent material.

For the relief of sclerosis vibratory massage has, in my hands, proved of the greatest value. I can look back upon about 100 cases of advanced sclerosis treated by that method, over half of which have been benefited. By benefited I mean that, first of all the disease has been arrested; secondly, that the hearing distance has increased; thirdly, that the tinnitus has decreased, and also that the range of tone perception, especially downwards, has been augmented.

I use an electric motor for performing the massage, both because I think it better for the patient, and as a matter of convenience to myself. The motor is about 1-10 horse-power, and operates a dental pump. In the head of this pump

is a valve, which, when open, produces a forward stroke only of the air, and when closed produces a to-and-fro movement of the air.

I introduce a catheter of the largest possible caliber into the Eustachian tube, and, with the valve open, allow the pump to act two or three minutes on each ear. Then I close the valve and apply the to-and-fro motion of the air to the drums through the external meatus by means of suitable earpieces, for about five minutes. I claim that the application of air-massage to the Eustachian tubes, especially in the case of wide, dry tubes, increases the circulation and restores their function in part, just as vibratory massage does in atrophic rhinitis. The value of massage applied to the stiffened drum and the rigid ossicles is as apparent as the massage of any stiff rigid joint would be.

The pump I use has a piston stroke of 15 millimeters, but, as the air passes through a long tube before reaching the ear, the effect is considerably diminished.

In the cases of people who live in the country, I had devised a method of self-treatment which I thought my own until I read of it in an Eastern journal. It consists simply in providing a set of auscultation tubes with a mouthpiece, which the patient by rhythmic suction causes to produce somewhat the same effect as the machine used in the office.

CORRESPONDENCE.

MANIFESTO ON USE OF ALCOHOL.

Editor California State Journal of Medicine—Dear Sir: Three times during the last half century medical manifestos have been issued giving the opinion of physicians on alcohol. The first was issued in 1839, and was signed by 86 persons. The second in 1847, and was signed by 2000 physicians, and the third appeared in 1871, with the signatures of over 4000 physicians, including the names of many leading physicians in all parts of the world. A fourth declaration of opinions is now being circulated for signatures, and reads as follows:

"The following statement has been agreed upon by the Council of the British Medical Temperance Association, the American Medical Temperance Association, the Society of Medical Abstainers in Germany, and leading physicians in England and on the continent. The purpose of this is to have a general agreement of opinions of all prominent physicians in civilized countries concerning the dangers from alcohol, and in this way give support to the efforts made to check and prevent the evils from this source.

"In view of the terrible evils which have resulted from the consumption of alcohol, evils which in many parts of the world are rapidly increasing, we, members of the medical profession, feel it to be our duty, as being in some sense the guardians of the public health, to speak plainly of the nature of alcohol, and of the injury to the individual and the danger to the community which arise from the prevalent use of intoxicating liquors as beverages.

"We think it ought to be known by all that:

"(1.) Experiments have demonstrated that even

a small quantity of alcoholic liquor, either immediately or after a short time, prevents perfect mental action, and interferes with the function of the cells and tissues of the body, impairing self-control by producing progressive paralysis of the judgment and of the will, and having other markedly injurious effects. Hence alcohol must be regarded as a poison, and ought not to be classed among foods.

"(2.) Observation established the fact that a moderate use of alcoholic liquors, continued over a number of years, produces a gradual deterioration of the tissues of the body, and hastens the changes which old age brings, thus increasing the average liability to disease (especially to infectious disease), and shortening the duration of life.

"(3.) Total abstainers, other conditions being similar, can perform more work, possess greater powers of endurance, have on the average less sickness, and recover more quickly than non-abstainers, especially from infectious diseases, while they altogether escape diseases specially caused by alcohol.

"(4.) All the bodily functions of a man, as of every other animal, are best performed in the absence of alcohol, and any supposed experience to the contrary is founded on delusion, a result of the action of alcohol on the nerve centers.

"(5.) Further, alcohol tends to produce in the offspring of drinkers an unstable nervous system, lowering them mentally, morally and physically. Thus deterioration of the race threatens us, and this is likely to be greatly accelerated by the alarming increase of drinking among women, who have hitherto been little addicted to this vice. Since the mothers of the coming generation are thus involved, the importance and danger of this increase cannot be exaggerated.

"Seeing, then, that the common use of alcoholic beverages is always and everywhere followed, sooner or later, by moral, physical and social results of a most serious and threatening character, and that it is the cause, direct or indirect, of a very large proportion of the poverty, suffering, vice, crime, lunacy, disease and death, not only in the case of those who take such beverages, but in the case of others who are unavoidably associated with them, we feel warranted, nay, compelled to urge the general adoption of total abstinence from all intoxicating liquors as beverages as the surest, simplest and quickest method of removing the evils which necessarily result from their use. Such a course is not only universally safe, but is also natural.

"We believe that such an era of health, happiness and prosperity would be inaugurated thereby that many of the social problems of the present age would be solved."

This declaration has already received the signatures of over 1000 physicians in all parts of the country. I have been appointed chairman to present this manifesto to American physicians for their endorsement. I should be very glad to receive the name, title and address of any physician who is willing to aid by his signatures to correct public sentiment and assist in the prevention of one of the great evils of the age. This is purely a scientific effort for the purpose of having a general consensus of opinion of the leading physicians of the world, and it is assumed that American physicians are equally enthusiastic and prompt to lend their signatures to this statement as in the wine-drinking countries of Europe. A postal card with address and title is earnestly solicited from every medical man who would like to be represented in this great movement for a clearer comprehension of the subject. Address

Hartford, Conn.

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